The Builder.

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Pugin Studentship Sketches (Pugin Studentship, Royal Institute of British Architects, 1901).—By Mr. H. W. Cotman .... *Extra Large-Page Ink-Photo.*
Presbyterian Church, New Haven, Connecticut, U.S.A.—Mr. F. R. Comstock, Architect ..... *Two Single-Page Photo-Lithos.*
Hitchin Town Hall.—Mr. E. W. Mountford, F.R.I.B.A., and Mr. Geoffry Lucas, A.R.I.B.A., Joint Architects ..... *Single-Page Tone Block.*
Premises, Hunslet, Leeds; and Premises, Thirsk.—Messrs. Bedford & Kitson, Architects ..... *Single-Page Tone Block.*

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The Port of Bristol.

IN spite of the maritime adventures and pursuits with which Bristol is associated, its geographical position is hardly one that would be chosen in the present day as the site of a great seaport. Yet the place, at the confluence of two rivers and within a few miles of an important estuary, is admirably adapted for the establishment and growth of a city. Bristol was probably best known as a fortified place in the earlier stages of its existence; then, as England gradually ceased to be the happy hunting-ground of restless and warlike seafarers from abroad, and the country itself began to settle down to more or less peaceful avocations, it became celebrated as a notable port, as well as a great commercial centre. Originally merely a unit in the Royal Manor of Barton, Bristol rose to be a county, and later a city. From the twelfth to about the middle of the eighteenth century it was undoubtedly, next to London, the most populous and the most important place in the whole kingdom. So far as relates to shipping, it also occupied the second position until outstripped by Liverpool, and since that event it has fallen to a much lower place.

Probably in no other city have the physical features been so completely altered as in Bristol. Of the two rivers by which it was once almost encircled, the Frome, after being transferred to a new channel, has practically disappeared, and the Avon passes through the city in an artificial channel, the old course having been absorbed in the construction of the city dock, known as "The Float" or the "Floating Harbour." The original courses of the two rivers may be traced on plan No. 1, which represents the city about the year 1066. In the earlier part of the twelfth century it was described as almost the richest city in the kingdom, for ships brought into it both home and foreign merchandise, it stood in a specially fertile district, and had the strongest site of any city in England. The same account goes on to say that twice in every twenty-four hours the waters of both rivers were turned back by a "quick and strong tide," so that a deep harbour was made, such as would receive a thousand ships, while the whole city seemed to "float on the waters, and to be seated on their banks." Although this language may be somewhat imaginative, and as to the last two similes a little contradictory, yet it must be clear that even at that early date both the city and the port gave evidence of considerable commercial prosperity. Until the year 1248 the only harbour was in the Avon, and the rapid ebb of the tide left vessels stranded on the bed of the river, thus frequently resulting in injury by straining action which they were not calculated to withstand. For the purpose of improving matters the citizens purchased a portion of the Canon's Marsh through which they cut a new channel, as shown on plan No. 2, this cut remaining almost unaltered to the present day, as a branch of the floating harbour. The old channel was filled up, and the completion of the undertaking—providing what was then thought to be a good harbour and quay—constituted the first real attempt at dock improvement in the Port of Bristol. This work is said to have cost the sum of 5,000*l.*, the equivalent of which is now variously estimated at anything between 25,000*l.* and 125,000*l.* Soon afterwards a new stone bridge was built connecting the northern and the southern parts of the town, and during the construction of the bridge the Avon was temporarily diverted through a new channel marked on the plan, the course of the cut being partly indicated in modern Bristol by the street known as Port Wall. A considerable enlargement of the walled area of the city was the result of these undertakings, and for the next few years there can be no doubt but that the building trades must have experienced a period of remarkable activity. Although no radical alterations were made in the form of the harbour for several centuries, the prosperity of Bristol continued to grow year by year. About 1450, William Canynges, one of the merchant princes, had nine ships afloat, and employed 800 seamen, besides 100 carpenters and other workmen; whilst a merchant named Strange is said to have owned about twelve ships.

In 1735 Bristol was described as a densely populated city, the quay along the old wall being crowded with houses on both sides; and in the middle of the street, as far as could be seen, hundreds of ships, their masts as thick as they could stand by one another. Up to this time Bristol had things pretty much her own way, in spite of the harassing and restrictive policy of the Corporation and society or company known as the "Merchant Venturers." This body, working hand in hand with the Corporation, farmed the port dues, wharfage and other charges, whilst the city authorities, in a jealously conservative spirit, excluded all except freemen from trading, and did everything in their power to confine the shipping industry within the city boundaries. In earlier times, vessels engaged in trade were of light draught and insignificant dimensions; consequently access to the quays of Bristol was unattended by serious difficulties, although much delay and inconvenience was caused by the violent character of the tidal flow and ebb. About the middle of the eighteenth century, formidable opposition from other ports commenced, and a period of decline was entered. Partly owing to the natural disadvantages of the port, and partly in consequence of excessive local rates, a large portion of the West Indian trade was permanently diverted from Bristol, and further loss of trade was experienced after the opening of canal communications between the Midland counties and ports less affected by tidal irregularities and more readily accessible from the sea. Then also the tonnage of vessels began to increase, a circumstance which tended still further to diminish the popularity of the western port.

Ever since the beginning of the nine-

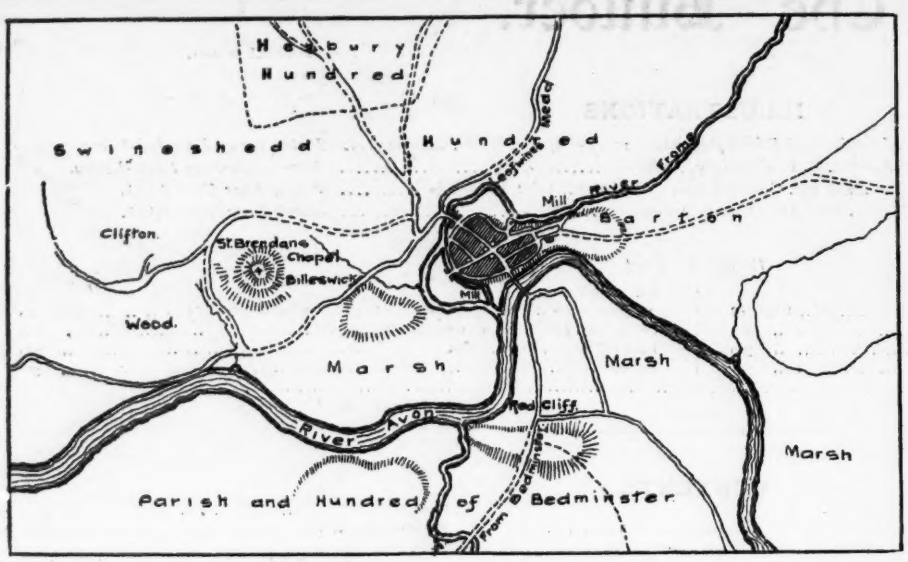


Fig. 1.—Plan of Bristol. A.D. 1066.

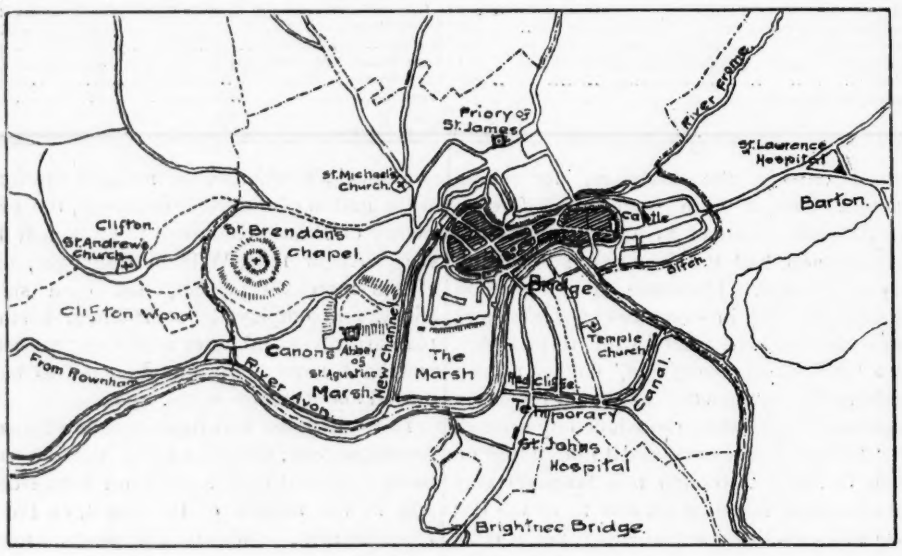


Fig. 2.—Plan of Bristol. A.D. 1250.

teenth century Bristol has been struggling to keep pace with the growing demands of the shipping trade, but with very indifferent success. Before the construction of the city docks, the accommodation was not essentially different from that made by the citizens in the year 1248, although improved quays and various facilities had been added from time to time. By a happy inspiration, it seems to have occurred to some one, about the year 1800, that the river harbour was really five and a half centuries behind the times. Consequently a Dock Company was formed in 1803 for the purpose of making an enclosed harbour in which vessels might float at all times without being thrown on their beam ends at the ebb of every tide. On June 1, 1804, the city harbour was commenced, being completed in 1809, at a total cost of 600,000*l.* The works comprised the building of new bridges; the formation of an artificial channel for the Avon from Totterdown to Rownham; the conversion of the Frome and Avon into a "floating harbour" by embanking and locking the old river courses; and the construction of Bathurst Basin, which, it will be seen by a comparison of Plans 2 and 3, occupies the site of the pool formerly existing near the outfall of the stream passing through Bedminster. Various additions were made in succeeding years, and in 1822 an Act was obtained for further improvements. Unfortunately the advantages of these works were lost by mismanagement; the Dock Company was practically controlled by the Corporation and the Merchants' Venturers, who sought profits from high rates rather than from the expansion of trade. In 1825 some of the more oppressive dues were modified, but no real reforms were introduced until 1848, when—largely owing to the efforts of the Chamber of Commerce—the dock undertaking was purchased by the Corporation, and the port dues were at once reduced to more reasonable proportions.

The credit of originating trans-Atlantic steam navigation in 1838 was due to the Great Western Steamship Company of Bristol; but their great mistake was in attempting to establish a line of steamships with only one vessel. Liverpool at once followed with a fleet of four large steamers, securing the mail contract, and becoming the principal port for communication with the new world. The inadequate nature of the Bristol dock in 1844 is shown by the fact that when the Great Western Steamship Company had built a second vessel—the unfortunate *Great Britain*—she was too large to pass out into the river until the lock had been increased in size. Notwithstanding the unsuccessful attempt to establish regular trade with America, the general prosperity of the Port of Bristol continued to increase, and the improvement of dock accommodation became a matter of urgency. Various projects were discussed from time to time, and about the year 1858 the Corporation came to the conclusion that dockisation of the river was the best means for developing the port. Just as their forefathers tried to crowd all trade into the narrow limits afforded by the city walls and to conserve its benefits for a favoured few, so did the authorities at the time of which we speak propose to bottle up the Avon with the idea of obtaining the greatest possible benefits for the city from such ships as might be induced to enter the river. The object of the Corporation was a strictly proper one, but the means suggested for its attainment resulted from a mistaken policy, which, being perpetuated up to recent times, has done much to restrain the progress and prosperity of the port. In 1859 the first scheme for dockisation was prepared by Mr. Howard, the docks engineer. This proposal was submitted to Sir John Hawkshaw and Mr. Page, but, after consideration, it was disapproved, chiefly because a prejudicial effect on the anchorage of King Road was feared by those experts.

A few years later, a movement was made for the construction of a deep-water dock at Avonmouth, a scheme in which Sir John Fowler and Mr. Brunlees were professionally interested. At last, in 1877-80, the present Avonmouth and Portishead Docks were constructed, each by a separate company; and about the same time a considerable sum of money was expended by the Corporation in the improvement of the city docks. These three extensions proved of general benefit, but the city then became only one, and the most heavily handicapped, of three competitors for the profits to be derived from the shipping industry. This condition was terminated when, under "The Bristol Dock Act, 1884," the Corporation purchased the undertakings of the Bristol Port and Channel Dock Company, of the Bristol and Portishead Pier and Railway Company, and of warehouse companies both at Avonmouth and Portishead. Two years later the Corporation obtained powers for making a new entrance lock to the Avonmouth dock, a new dock and graving dock communicating therewith, as well as some additional works in the floating harbour. Further Dock Acts were passed in 1893 and 1897, authorising various works and improvements in the city docks; but the scheme which it is now hoped will enable Bristol to compete successfully with other ports in the Channel, has only recently been formulated and is the final outcome of successive proposals brought forward at different times during the last decade. When the late Mr. McKurrich, then the docks engineer, commenced the preparation of his scheme of 1894, the condition of the docks generally was not essentially different from that existing in 1884 although some of the improvements authorised had been added. The city docks included an area of about 80 acres, and there were three dry docks, varying in length from 300 ft. to 380 ft., in width from 38 ft. 6 in. to 45 ft., and in depth from 13 ft. to 15 ft. The entrance lock opening into the Cumberland Basin measured no more than 350 ft. long by 62 ft. wide. At Avonmouth the main dock covered an area of about 16 acres; it was provided with a floating dry dock, of the pontoon type, about 350 ft. long; and the entrance lock measured 454 ft. long by 70 ft. wide, the depth of water on sill at ordinary spring tides being

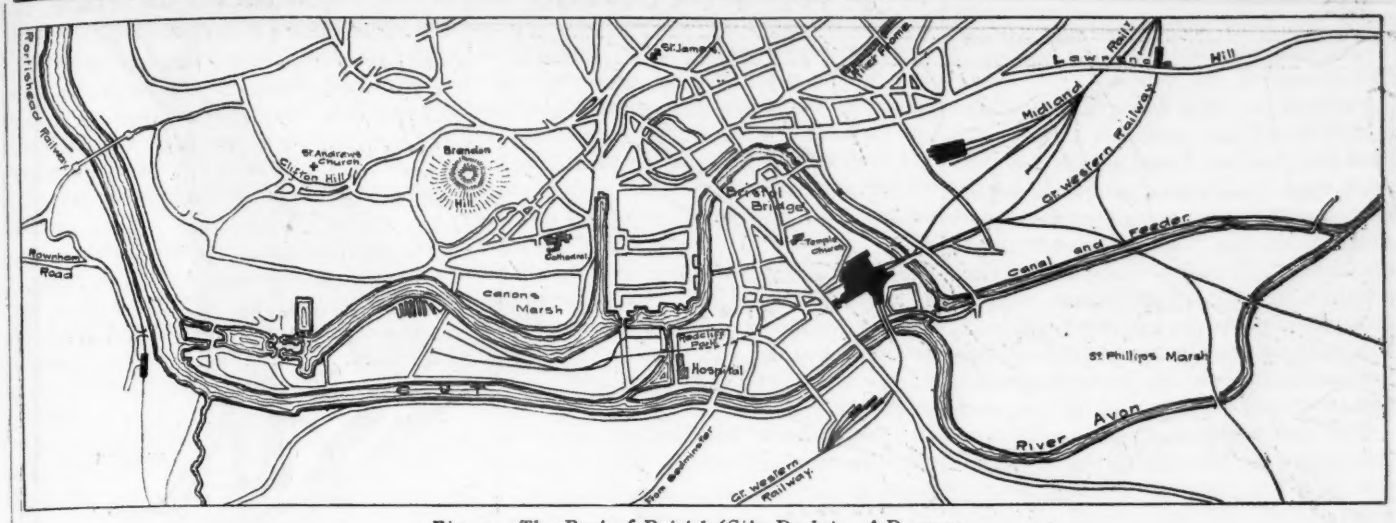


Fig. 3.—The Port of Bristol (City Docks). A.D. 1901.

38 ft., or at lowest neap tides 27 ft. The dock at Portishead, approximately equal in area to the Avonmouth Dock, was provided with a lock 444 ft. in length by 66 ft. in width, the depth of water on sill at ordinary spring tides being 33 ft. and in the dock 27 ft. A detailed consideration of the proposals put forward by Mr. McKurrich in 1894 is not necessary, but it may be useful to observe that they were to some extent based on conditions which have since been modified, and although providing for dockisation in accordance with the instructions of the Corporation, they included the construction of a large new dock at Avonmouth, with a graving dock, an entrance lock of ample size, and a low-water passenger pier. It was also pointed out by Mr. McKurrich that works of considerable extent would be required for dealing with sewage in the event of the river being dockised. In the following year Sir John Wolfe Barry was invited to report upon these recommendations, and in his modified scheme of 1896 some alterations and additions were suggested. The net cost of dockisation was then estimated at 1,880,000*l.*, the low-water pier being estimated at 320,000*l.*, and the sewage works at 500,000*l.* Sir John Wolfe Barry also considered the whole subject of harbour accommodation, and reported on three alternative methods of dealing with Transatlantic traffic; these are stated below with the estimated total cost of each, including railway and other auxiliary works, but not the low-water pier or sewage works:—Dockisation, 2,580,000*l.*; improvements at Avonmouth, 1,308,000*l.*; improvements at Portishead, 852,000*l.*

When reporting upon the dockisation scheme Mr. McKurrich expressed the opinion that the Avonmouth improvement was to be preferred, but at that time Sir John Wolfe Barry was rather in favour of extensions at Portishead. No result followed the presentation of these reports, until in July, 1898, the Dock Committee decided to recommend the expenditure of 350,000*l.* on the development of the Portishead Dock; and in the same year a caisson was added to the Avonmouth lock, making it available for ships up to 480 ft. in length. Nothing further appears to have happened until October, 1898, when it was decided by the City Council that a special committee should be appointed to report within three months "as to the lowest possible cost at which the River Avon can

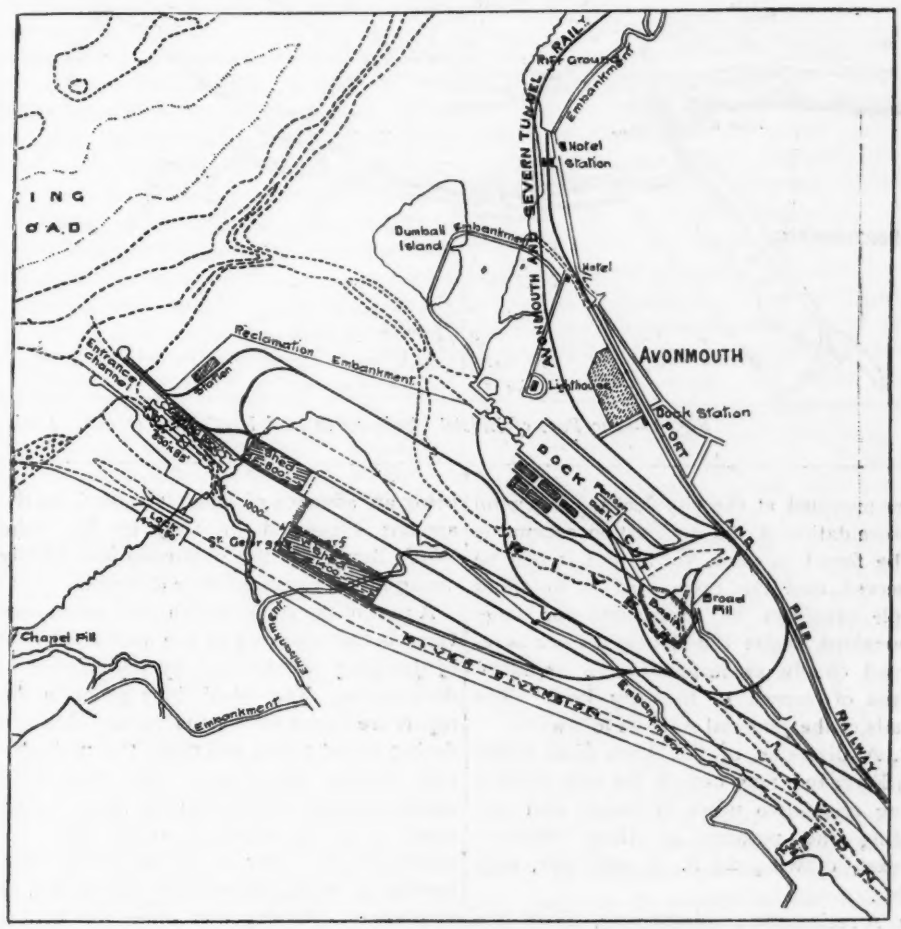


Fig. 4.—The Port of Bristol (Avonmouth Dock). Dockisation Scheme of 1900.

be dockised, and accommodation be provided for the largest class of passenger and cargo steamers." A final report was made by the Docks Engineer in December, 1898, in which the total cost of the works was estimated at 1,782,000*l.*, but the progress of events was once more interrupted, this time by the regrettable death of Mr. McKurrich in January, 1899. Then in July, 1899, the Dockisation Committee requested the new Docks Engineer, Mr. W. W. Squire, and the general manager, Mr. Girdlestone, to report upon the recommendations of Mr. McKurrich. In the early part of October, 1899, the Dock Committee of the City Council appeared intent upon the Portishead extension, but at the same time they invited Sir John Wolfe Barry, Sir Benjamin Baker, and Mr. Hurtzig to consider the whole subject of dockisation in conjunction with Mr. Squire. The report presented by these eminent experts in May, 1900, makes it clear that dockisation is practicable as an engineering work, but it also hints at the grave objections which might be raised in connexion with any application to Parliament for powers to dockise the Avon. Amongst these objections two of the most important are—(1) interference with the drainage of some 900 square miles of country, and (2) restriction of the flow and ebb of the tidal volume of the river, with the possibility of prejudicially influencing the estuary in general and the anchorage of King-road in particular As to the most suitable position for dock accommodation, the report says it would be difficult to prove that this should be provided in the heart of the city, and points out that without ruinous demolition of property it would be impossible to furnish facilities there for dealing with large vessels within the limits of time usual in competitive ports. Moreover, the doubt is expressed whether large vessels would readily undertake the up river journey, even if the accommodation

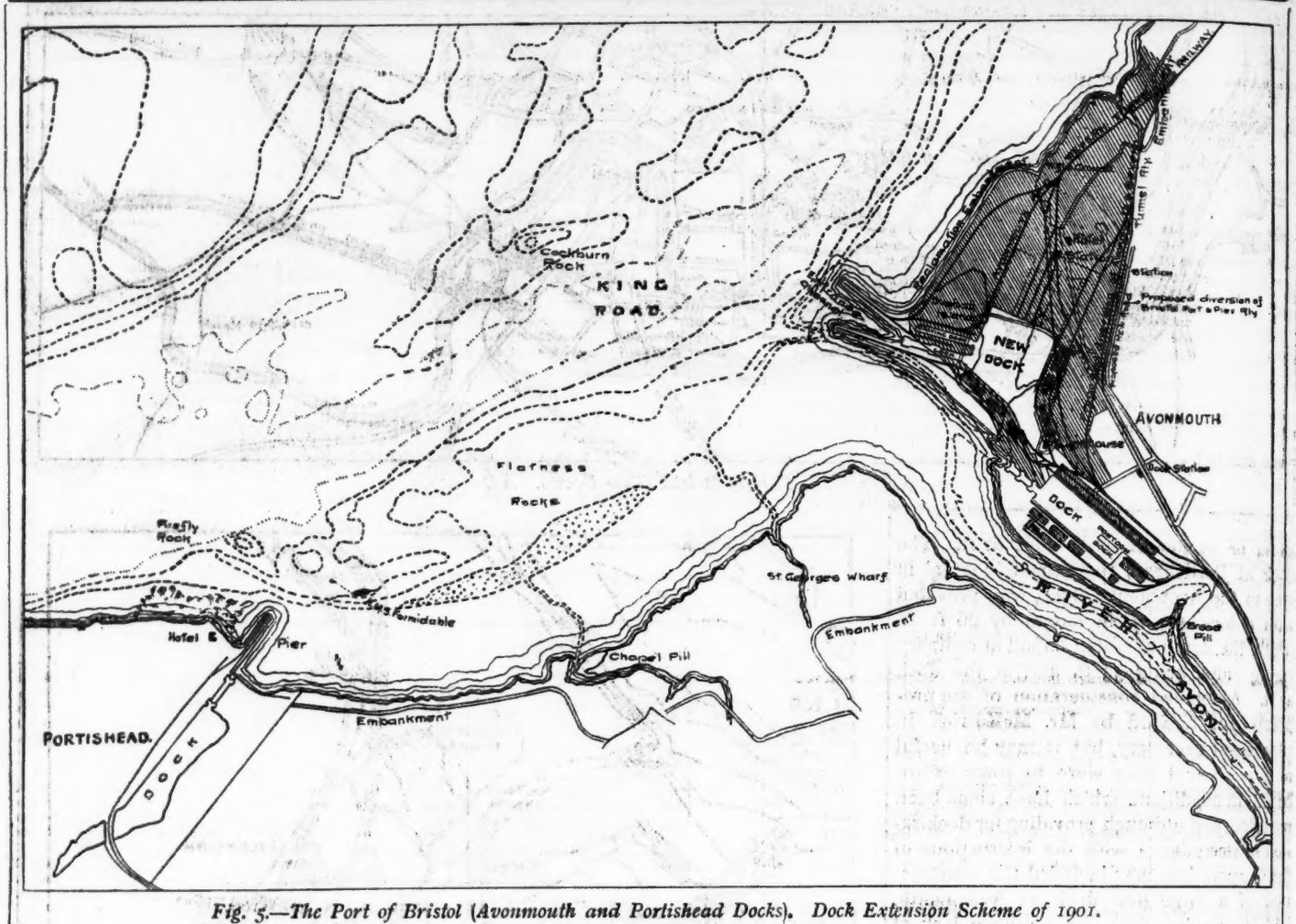


Fig. 5.—The Port of Bristol (Avonmouth and Portishead Docks). Dock Extension Scheme of 1901.

were provided at the city docks. A general representation of the dockisation scheme is to be found in plan No. 4, and it will be observed that the main idea is to afford ample provision at Avonmouth for large steamships, whilst the dockised river is regarded chiefly as furnishing an improved means of access to the city itself. The details of the proposal were as follows:—

1. A diversion of the Avon from below Pill Ferry to a new outfall, the new channel being about two miles in length and permitting the passage of three steamers abreast, drawing 23 ft. at neap tide, high water.

2. A reclamation embankment, about one mile in length, from the entrance lock of Avonmouth Dock to the northern side of the new outfall. This embankment would provide a new site of about 300 acres for dock and auxiliary purposes.

3. An entrance channel from King-road; an entrance lock, 850 ft. long by 85 ft. wide; and a graving dock of similar length.

4. A deep-water dock of 23 acres, and dock space in the river of 10 acres; 3,000 lineal feet of deep-water quays, shed area of 525,000 square feet, and other equipment.

5. A masonry dam across the diverted river, with large under sluices worked by machinery, and having an opening of 2,000 square feet.

6. Railway communication with the Port and Pier and the Severn Tunnel Junction railways, railway sidings to the length of 20,000 lineal feet, and a passenger station near the entrance channel.

7. An independent lock entrance into the dockised river for small vessels.

The cost of these works was estimated by the engineers at 2,775,000*l.*, this sum being an advance of about 700,000*l.* on the amount suggested in 1896 by Sir John Wolfe Barry, but the difference was largely owing to the proposed river diversion.

A part of the report which is of permanent value is that referring to the increased cost of dredging necessitated by any scheme of dockisation. The calculations given in the report are based upon actual results obtained during recent years, and upon the undoubtedly correct assumption that the solid matters brought down from the Avon watershed would be nearly all deposited in the relatively still water of the dockised river, instead of being carried into the estuary, as at present. Making due allowance for the weight of material now removed, it appears that the additional expense for dredging entailed by dockisation would not be less than 29,000*l.* per annum.

It is highly probable that the report of 1900 had the effect of strengthening the hands of those who were opposed to the idea of turning the Avon into a ship canal; but the advocates of dockisation were by no means convinced of error, for on July 30, 1900, it was decided by the City Council that yet another report should be made by the Dockisation Committee, after consultation with Sir John Wolfe Barry, Sir Benjamin Baker, and Mr. Hurtzig. These eminent engineers were also to be requested to present another proposal which in their opinion would be adequate to the requirements previously stated, and would give equal accommodation to that in the dockisation scheme. The proposal was presented in due course, and an opinion was also given adverse to dockisation, not because it was impracticable, nor because of the greater outlay involved, but chiefly on account of various important questions which in their opinion would constitute obstacles to the success of any application to Parliament for dockisation of the river. This dictum had the effect of setting dockisation definitely aside, and selection had then to be made between the Portishead extension, favoured in 1896 by Sir John Wolfe Barry, and the Avonmouth extension, recommended in the final report made in October, 1900, by the three experts. With regard to the former proposal, it may be mentioned that Sir John Wolfe Barry has stated that in 1896 he was influenced by the belief that Bristol then especially desired accommodation for Atlantic liners rather than a general development of the port. Further, it is perfectly clear that the railway communications of Portishead are very inadequate, and no extension is to be recommended at that place unless accompanied by a thoroughly satisfactory understanding with the two great railway companies. At the present time Sir John Wolfe Barry is entirely in accord with his colleagues in recommending the Avonmouth site. As the matter now stands the Corporation has decided to adopt the proposals made in the October report, and these have already been included in a Bill, known as "The Bristol Docks and Railways Act, 1901," to empower the Mayor, aldermen, and burgesses of the city of Bristol to construct an additional dock, railway, and other works, to extend the city and county of Bristol, and for other purposes. The works in question are shown on plan No. 5, and they include the following details:—

1. A diversion of the Avonmouth and Severn Tunnel Railway, commencing on the north-west side of Gloucester-road, and continuing for a distance of about 2,000 yards to the existing railway.

2. A diversion of the Bristol Port and Pier Railway, commencing at a point north-west of Richmond-terrace, and continuing for a distance of about 800 yards to the Avonmouth and Severn Tunnel Railway as diverted, including the provision of a new passenger station and a new road in substitution for those to be closed by the new works.

3. A reclamation wall, commencing by a junction with the northern approach pier to the lock, and continuing in a northerly direction, slightly on the seaward side of Dumball Island, and at its termination joining the existing sea embankment as indicated.

4. A reclamation embankment commencing by a junction with the southern approach pier to the lock, and continuing along the northern side of the outfall of the river Avon, and at its termination joining the approach works of the lock of the existing Avonmouth Dock.

These railway diversions and reclamation walls will provide an area of about 250 acres in extent, suitable for the construction of the new dock, lock, graving dock, sheds, railway sidings, and other requisite accommodation.

5. A dock to be at first constructed having 25½ acres of deep water space and a total available quay length of 3,200 lineal feet. The dock area will be surrounded by about 221 acres of land in the first instance; but the dock is so situated that the water space may be hereafter readily extended if required.

An extension, as indicated by dotted lines on the plan, would provide four additional berths for steamers of the largest class. This extension, consisting of two branch docks, would increase the total deep water area to 40 acres, and the surrounding land would be reduced to about 207 acres. It may be seen by the plan that still further extensions may be made should they become necessary. The quays bordering the dock will be wide and commodious, and readily adaptable to the timber, coal, or general trades, as may be most suitable. The walls will be founded upon hard marl, and there is ample room for the provision of sidings and railway connexions. The graving dock is to be situated as shown on the plan, and it will be 850 ft. in length by 90 ft. in width, thus affording accommodation for steamers of the largest class. The estimates provide for 3,200 lineal feet of deep water quays, sidings to the extent of 20,000 lineal feet, and 525,000 square feet of shed area.

6. A junction cut between the existing Avonmouth Dock and the proposed new dock to afford communication and provide a second entrance in case of need. It will be observed, however, that the value of this second entrance is qualified by the length of the lock of the existing Avonmouth Dock, which will not admit vessels longer than 480 ft. In this respect, therefore, the arrangement is less desirable than that included in the scheme of 1900, where the graving dock was available as an emergency entrance for vessels of the largest class.

7. An entrance channel from King-road, together with an entrance lock, 850 ft. long between the extreme gates and 85 ft. wide, with sills 8 ft. below the outer sills of the existing Avonmouth Lock.

This new lock will be practically on the site proposed by Mr. McKurrich in connexion with his scheme for a new dock at Avonmouth. The present engineers consider that there is no difficulty in this site that cannot be overcome by modern methods of construction, and, bearing in mind all the circumstances of the case, they believe the lock to be in the best position that can be selected for the entrance to a dock on the Dumball Island site. The approach piers are designed so that passenger steamers can lie alongside and discharge passengers in close proximity to trains standing upon the piers. In the case of a steamer drawing 30 ft. of water this convenient system will be practicable for two hours before and after high water of ordinary neap tides. If facilities should be thought necessary for landing passengers at low water of spring or neap tides, the low-water pier proposed by Mr. McKurrich might be adopted, but its construction is not included in the present programme.

In addition to the works mentioned above, the Corporation propose certain road and street improvements, a deep-water wharf alongside the floating harbour, and other improvements in the city docks.

According to estimates prepared at the instance of the Corporation, the purchase of land and the execution of the works specified in the Act will be as follows:—

Avonmouth works	£1,428,885
Graving docks	250,000
Equipment and engineering	271,000
Road and street works	13,000
Works authorised by Dock Act, 1897	114,600
Deep water wharf (city docks)	190,000
General purposes ,,	182,722
Total	£2,450,207

The estimate for that portion of these works dealt with by Sir J. Wolfe Barry, Sir Benjamin Baker, and Mr. Hurtzig amounts to 1,804,700*l.* Thus it will be seen that the cost will be 970,300*l.* less than that of the Dockisation scheme, and another important saving is represented by the difference in the cost of dredging. The heavy annual outlay in respect of this item inseparable from dockisation will be avoided, as the only additional expenditure in connexion with the new dock will be the maintenance of the approach from King-road, the annual cost of which is estimated at between 4,000*l.* and 5,000*l.*

Regarded as a whole, the latest proposals appear to provide all the accommodation required at the present time, and to lend themselves to the execution of all such extensions as may be expected to be demanded for many years to come. Until quite lately the Local Authorities have clung very tenaciously to the idea that the city itself is the proper centre of the port. As the seat of various manufactures, Bristol is no doubt an important place; but it is still more important as a collecting depôt for other and more populous districts. The old order of things, which made the city suitable as the site for a harbour, has long since passed away. The mouth of the Avon is now the true centre of future expansion, and is the place where Bristol may hope to lay the foundations upon which her prosperity and greatness may once more be built.

NEW SCHOOLS AT HARTLEPOOL.—The School Board of Hartlepool have instructed Mr. J. Mitchell Bottomley, of Middlesbrough and Leeds, to prepare a scheme for the proposed new Board school in Baltic-street, Hartlepool.

NOTES.

The Monument to Queen Victoria.

IN the course of his speech at the Mansion House on Tuesday, Mr. Balfour, in referring to the proposed site near Buckingham Palace for a monument to Queen Victoria, observed that he hoped the memorial would involve something more than a mere monument—"some great architectural and scenic change in that part of London." This remark points in the direction of what we have already suggested—that in order to place any monument effectively in connexion with Buckingham Palace and the Mall, some rearrangement of the site would be necessary, so as to centralise the monument. Something very fine might be done if alterations are carried out on a large scale and in a right artistic spirit, and it is satisfactory to observe that Mr. Balfour at all events seems to have large and liberal ideas on the subject.

Bronze Statue at Naples.

THE beautiful bronze statue recently discovered by Professor Orsi on the Barbatelli Estate, near Pompei, is not as yet exhibited to the public, but by the kindness of the Director of the Naples Museum, we were able to make a personal inspection. The statue is not, as has been erroneously reported in some accounts, "life size." It is about 4 ft. in length, and represents a nude ephebos in an extraordinarily perfect state of preservation. The paste eyes had fallen back into the head, but have been restored to their place, and give the statue, as in the case of the "charioteer" of Delphi, a wonderfully life-like air. Together with the statue were found two bronze scrolls, similar in character to those often held in the hands of figures in vase painting. It is conjectured that the youth held these scrolls in either hand, and that they may have served as supports for pendant lamps. One of the scrolls is large and heavy in proportion to the delicate hand that it is supposed supported it, but in any case they are not flowers or tree branches as has been stated. The statue shows clear signs that it has been coated with silver, as patina has only formed in places where the silver coat is worn away. In style, this exquisite figure recalls the manner of Polycleitos. It is ultimately to be placed in the Sala dei Bronzi in the Naples Museum.

The Government and London Water.

THE rejection of the Bill of the London County Council for the purchase of the water companies again leaves the ratepayer at the mercy of these companies. In asking Parliament to reject this Bill the Government have acted contrary to the wishes of London, which desires to see some active step taken towards the municipalisation of the water supply. In place of the Bill of the County Council the Government can only give a hope of a Bill next Session. But why in a purely local matter should not London be allowed to carry out its own scheme? This is not a so-called Imperial matter, and yet the Government treat it as if it were one which concerned the whole of England. Representatives of the provincial towns vote against the Bill of the governing body of London, though they have no concern with the question at all. The proper course would have been to have allowed this Bill

to go before a Select Committee, and be discussed in its details before that tribunal. And we ask again, what is the use of lecturing the people of London on their want of public spirit when they are not allowed to manage their own affairs?

A Question of Liability.

IN the City of London Court last week the war—which has been blamed for many things—was held accountable for delay in the delivery of two trucks of bricks. They were consigned from Southborough to Messrs. Mills, of Westcombe Park, and the railway company took fourteen days to deliver one truck, and seventeen days the other. The length of the journey being only thirty miles, the bricks jogged along at the rate of something less than two miles a day, which, as the plaintiffs' counsel remarked, was slow, even for the Chatham Company. The latter were sued for 50*l.* damages, as the brick merchants were liable to penalties under a contract. In deciding the terms of a contract it is customary to provide for such eventualities as strikes and lock-outs; but when your material is once on rails you rely on it reaching its destination within a day or so In this case, however, the company successfully pleaded non-liability on the ground that the line was at that time practically taken over by the War Office for the conveyance of munitions of war, and they were compelled to put all other traffic on one side. This is hard on the contractor, and we feel, with Mr. Commissioner Kerr, that as the Government had caused the delay, they ought to pay. But the Government will be called upon to pay for a vast amount of direct and consequential damage in connexion with the war, and would probably contest a claim of this nature. Messrs. Mills were given the option of having a special case stated, and more may therefore be heard of the matter, especially as it is by no means a solitary case.

Electric Lighting Regulations.

THE inquiry by the Board of Trade into the regulations proposed by the electric lighting companies was concluded last week. The companies, represented by their counsel, posed as aggrieved parties, because a few consumers, whom they supplied with current at 100 volts, refused to accept service at 200 volts. The reasons advanced by those objecting to the change were either that they were afraid of getting shocks from the increased pressure or that they were entitled to a substantial indemnity. The danger from shock was hardly touched upon at the inquiry, although from the facts stated in the next note it will be seen that it is no imaginary danger. The County Council based its arguments for indemnity on two grounds—namely, on the right of the consumers to veto the change, and on the fact that the 200-volt lamp is not as efficient as those made for lower pressures. We were astonished that electricians could be found who would not admit the inferiority of the 200-volt lamp as at present constructed. Many consumers who have had experience of both have very strong opinions as to the shortness of the life of the high-voltage lamps. The tests quoted by Professor Ayrton were conclusive as to the low efficiency of these lamps, and they agree with the results of experiments that we have made ourselves. It will be seen that the companies have not made out that their increased pressure is an undoubted benefit to the public, and hence they have no claim to propose that certain persons should be deprived of their vested rights. The attitude that the London County Council has adopted towards this increased pressure is the right one, namely, that the only reasonable way of giving a solatium for the loss of a consumer's rights is that he should have a substantial reduction in the price in the shape of a discount. As Mr. Danckwerts, K.C., on behalf of the City Corporation, suggested, the analogy of compensation cases should be taken and those persons should be charged 10 per cent. less than anybody else.

Conduit Tramway Systems.

THE paper recently read by Mr. Connett on "Combined Trolley and Conduit Tramway Systems" to the Institution of Mechanical Engineers is of special interest, both to engineers and town councillors. Many towns at the present time are considering the question of electric traction, but are in doubt whether to adopt overhead traction, with all its known drawbacks, in crowded thoroughfares or to adopt an expensive scheme of conduit tramways. In this paper Mr. Connett describes several ways of combining an overhead trolley system in the suburbs with a conduit tramway for the central streets. These methods are not experimental, as Mr. Connett has already constructed some fifty miles of electric conduit tramways in Europe and America. In regard to the vexed question of whether the centre-slot or side-slot system should be adopted, it was interesting to hear that the municipal authorities in Buda-Pesth, Berlin, and Brussels, absolutely prohibit the centre-slot, whilst in Paris only about five per cent. of the conduit mileage is centre-slot. This objection is probably due to the additional rail in the centre of the streets required by the centre-slot, as every joint of a rail with the paving shortens the life of the latter. A valuable description is given of the shallow conduit designed for use on the Pont de l'Alma in Paris. It is important to know that it is quite possible to make the conduit shallow in places, as this will lead to many economies by avoiding the necessity of removing and lowering sub-surface obstructions. In Berlin the change from conduit to trolley is done without stopping the car. A wheel on the lower part of the plough runs up an inclined plane and so raises it through the slot to the groove of the wheel rail and then a turn of the crank by the motor man raises it clear of the track. Mr. Connett estimates the cost of the conduit to be 6,000*l.* more per mile than the cost of the overhead trolley and there has to be added to this the cost of removing sub-surface obstructions, which will vary greatly with the locality. He has certainly made out a very good case in favour of a combined trolley and open-slot system, and the conclusions to be deduced from his paper agree with the results arrived at by the Highways Committee of the London County Council.

No. 142, Strand.

SOME extensive structural alterations are being made by Messrs. Patman & Fotheringham, contractors, for the proprietors of a serial publication at No. 142, Strand, which stands opposite the end of Catherine-street. The house, distinguished until lately by its sign of a half globe, is noteworthy as having been occupied by the Chapmans when, in 1851, George Eliot first came to London. That house was her home during the two following years; whilst living there she wrote many essays for the *Westminster Review*, and did some editorial work that the Chapmans placed in her way. The premises were rebuilt some sixty-five years ago as "Wright's" Hotel. In more recent times they formed the offices of the International Life Assurance Company, and then of a well-known tourist-ticket agency. They stand on the site of the "Turk's Head" coffee-house, a favourite resort of Dr. Johnson, Boswell, Alexander Chalmers, Hewerdine, and many other literary celebrities. In his "Records of My Life" (vol. i.) John Taylor mentions that he often met Richard Porson at the "Turk's Head" in the Strand.

The Fine Art Society.

AT the Fine Art Society's Gallery are two new exhibitions; Mr. S. J. Hodson's water-colour drawings of "Picturesque Towns on the Loire" and elsewhere, and a collection of water-colours by Mr. Eyre Walker, under the general title "By Woodland and Stream." Mr. Hodson's subjects are mostly architectural, and illustrate many picturesque buildings or collections of buildings; but they are rather formal in style and there is a want of clear and definite colour in them. Some of the views of towns comprehensively treated are among the best; for example "Saumur from across the River" (8) and "General View of Angers" (9), a pile of houses climbing up the hill and topped by two thin spires. "The Castle, Vitré, Early Morning" (51), is a fine drawing with more of effect in it than most of them. Among the street scenes "A Street in Vannes" (17) shows a curious old house built out of heavy and massive timbers; "The Hotel de Ville, Orleans" is a good example; the "Cheapside" is rather spoiled by the bad drawing of the Bow cupola. The collection of works by Mr. Eyre Walker is a beautiful one; every drawing is worth looking at, and some of them represent the highest quality of landscape-painting in water-colour. Among these specially attractive examples may be named "Semmerwater, Evening" (13) with the warm light on the hills and the rich bit of colour in the small lake reflections in the middle distance; "On the hills above Brendon" (19); a "Hillside, Llanbedr Woods" (27); "In Ashdown Forest" (30), a small landscape differing in tone and manner a little from the majority—it must be admitted that Mr. Walker rather runs to one tone in his landscape, which mostly have a kind of rich mellow autumnal tint pervading them; "On the Watershed of England" (47), a wide-sketching scene of undulating Yorkshire moor; and "Brambles and Ragwort" (56), a perfect little picture composed of a bit of foreground vegetation over which some distant white cliffs are seen faintly reflected in the sea. This is not one of the more important works in regard to scale and subject, but as a work of art it is perhaps the most complete and satisfying picture in the room, in the sense of making the most of the materials and keeping the balance of the whole.

Mr. Maclean's Gallery.

THE two well-known galleries next door to each other in the Haymarket, Mr. Maclean's and Messrs. Tooth & Sons, both have new

collections of pictures on view. At Mr. Maclean's the centrepiece is M. Lhermitte's large picture "The Reapers," which we have seen more than once before; a work rather inspired by recollections of Bastien-Lepage. A very fine view of "Whitby," by Mr. Albert Goodwin, is also among the collection in the principal room, and a powerful Highland scene by Mr. Hurt, who in this class of subject is, indeed, a kind of double of Mr. Peter Graham, but runs his original very close. Then there is Mr. Leader's "Old English Village Church," which we remember at the Academy some years ago, and Mr. Shaw's "Stormy Day in the Channel," which also we seem to know, or else a predecessor very like it. There is an example of Meissonnier, not quite at his best, but superior to the best of most other painters as far as execution goes, at any rate. Among the works in the outer room is a large specimen of James Maris, "Katwyk, Holland," with a grand sky but his usual depressing effect of dingy colour, and a calm sea picture by Mr. Fritz Thaulow, "Fishing Boats off Dieppe, Moonlight," in which at all events there is no lack of fine colour.

Messrs. Tooth & Son's Gallery.

MESSRS. ARTHUR TOOTH & SONS have the good fortune to include in their present exhibition one of the best pictures that Bouguereau ever painted, "L'Amour qui Vole," a cupid flying off with some property of a seated nude female figure who may represent Venus, though she is not very goddess-like: but the drawing and painting of this figure are so perfect that for the moment one is tempted to forget the essentially cold and academic character of Bouguereau's art in admiration for the perfection with which, in this case at least, he has worked out his own ideal. Next to it hangs an exceedingly clever picture by M. Léo Hermann, a name we do not recall—three ecclesiastics with countenances delightfully expressive of their enjoyment of a particularly good bottle of wine; the costumes and accessories are painted with the most brilliant though not obtrusive realism. It is a kind of subject that is not worth the talent displayed over it, but the talent is indisputable. Among other works are Sir L. Alma-Tadema's charming little picture "The Flag of Truce"; "On the Alert," by Rosa Bonheur, a small painting of two stags which at once shows a master hand; a good specimen of Van Marcke's always excellent but constantly repeated dish of cows and landscape; and a powerful though rather loaded woodland scene, "Forest Pastures" by Mr. Ch. Jacque. The small room contains some interesting water-colours; two beautiful little works by Mrs. Allingham, others by Varley, David Cox, and Sutton Palmer, whose "Birches and Boulders" shows a quite exceptionally good study of foreground detail; and a figure by W. Hunt, "A Beggar Boy," which shows Hunt at his best in regard to qualities of pathos and expression as well as execution.

Messrs. Dowdeswell's Gallery.

A COLLECTION of oil-paintings by Mr. Rex Vicat Cole forms the latest addition at Messrs. Dowdeswell's galleries. These are exhibited under the title "A Year in Wharfdale;" the central and largest painting, "Spring's Delights," is the one which was exhibited at the last Royal Academy and which we noticed in our article on the pictures of last year. The rest of the collection—forty-eight pictures in all—is of rather unequal value; the greens are rather crude in some of them, and some of the effects of colour and sunlight seem a little theatrical. Those we admire most are among the August pictures—"Ower Fell," "Bolton Abbey from the Woods," with the river making a silver ribbon at the bottom of the vale; "Barden Moor," and also the September picture "On Barden Fell." A frame of beautiful drawings of details of leaves and sprays is exhibited, which are to form part of the illustrations of the forms and growth of trees for a book on "British Trees" which the artist has in preparation. The present set of sketches form complete illustrations of the Guelder Rose.

The Institute Prize Subjects.

THE list of subjects for next year's prizes, issued by the Institute of Architects, is of more than usual interest. The subject for the Soane Medallion is a swimming-bath, the interior of which is to be treated in an architectural and monumental manner. A swimming-bath interior, with its water surface and consequent reflections, is really an exceptional chance for a fine architectural effect, as the Romans knew so well, though we never get an opportunity for such a treatment now; it ought to be a pleasure, at least, to do it on paper. For the Tite Prize the subject is a memorial chapel in the Italian style, for which the main lines of the plan are given, leaving the details to be worked out at the pleasure of the competitors. The subject for the Essay Prize is "The Employment of the Order in Renaissance and Modern Architecture"; a subject which gives a chance for some able and thoughtful student of architecture to produce an essay which may be of permanent value as a contribution to the higher architectural criticism.

THE SURVEYORS' INSTITUTION:

THE PRESENT CONDITION OF THE BUILDING INDUSTRY.

AN ordinary fortnightly meeting of this Institution was held on Monday evening, at No. 12, Great George-street, Westminster, the President, Mr. John Shaw, occupying the chair.

Some donations to the library having been announced, and a vote of thanks to the donors having, on the motion of the chairman, been agreed to, the discussion on Mr. Thomas Blashill's paper, on the "Present Condition of the Building Industry," was resumed.

Mr. P. E. Pilditch said that he was surprised that Mr. Blashill had been able to invest the subject, which to many would be regarded as dry, with so many of the attributes of poetry. The paper consisted of two parts, the first of which dealt with the relations of the architect and the surveyor with the client and with the builder, and the latter part dealt with a subject of even greater importance, not only to the profession, but to the nation—viz., the question of labour and its present effectiveness, and its effect upon the building industry. As to the suggestion made by Mr. Blashill as to having all details ready before starting a building, that would be a beneficent thing if it could be done, because it would give the builder a greater opportunity to give closer estimates, but he could not help thinking that it was a counsel of perfection, and one that those in practice would find it difficult to give effect to. In most jobs the employer rarely made up his mind to start building until the last moment; moreover, clients themselves always liked to exercise their own individuality upon the details of the work to be carried out. If all the details were prepared beforehand, it frequently happened that if, when the client saw those details in the course of being carried out, they were not exactly as he would like them to be, he had the work delayed. Moreover, there was always a very useful margin of time during the first weeks or months, during which the foundations were being prepared, which gave an opportunity for the details to be worked out quietly by the architect. Therefore he did not think Mr. Blashill's idea was practical in most cases, though he quite agreed that double the time given to the drawings at the beginning would save much time in the execution of the work. He did not quite agree with Mr. Blashill when that gentleman said that the quantities, if properly priced, should form the basis of a settlement. He did not quite understand that, because the quantities were priced by the builder, and if accepted as part of the contract, must be the basis of the settlement of account at the end. Who was to say if they were properly priced? It frequently happened that a builder had special reasons for pricing some things high and some low, and it would be impossible to depart from the basis of the contract, accepted by the builder himself in settling the account. Another exceedingly interesting point raised by Mr. Blashill was as to sub-contractors being under the direct orders of the architect, and provision being put in contracts for that purpose. He had tried that system and its antithesis and there was something to be said for each. He thought the most important matters, such as the iron work, the large fittings (such as lifts) should be under the direct control of the architect; and as to the point made by Mr. Blashill, of the builder not getting his proper profits, he did not see how that could be. When the builder was pricing his quantities and had the amount of the provision before him, it was always open to him to add to the provision, and if he cut out his profits, surely he did so at his own risks, and must take the consequences. With regard to the suggestion as to the direct employment of workmen and the carrying out of work by an employer without the intervention of a contractor, he had a case some time ago in which a client determined to adopt that course under specially advantageous circumstances. The result was entirely unsatisfactory, and although the employer gained something in the way of his relation to the workman, and was able to give the workmen a farthing or a halfpenny an hour more than the trades-unions rate of the time, in order to get the work done quickly, he was not able to make up for the delay in other ways. As there was no contract, there was no builder to keep a check on the alterations made from time to time to suit the whim of the employer, and in the end the work took nine months longer than a contractor would have taken, and cost from 25 to 30 per cent. more than a contractor would have done it for, that result being partly because the employer had none of the large plant and facilities which the contractor had. The long experience that the large contractors had had was of great use to architects and surveyors, and employers who engaged them. In regard to that all-important subject of labour, public as well as professional attention had been directed for some time to the question of the effectiveness of present day labour, and its influence not only upon individuals and trades, but also upon the national interests. Every speaker in the discussion so far had, with one exception, had to find some fault with the British workman in the building trades, against whom there seemed to be two serious complaints. The first was the indifference, loss of value, and lack of keenness of the present worker, and a good deal had been said as to that. Mr. Taylor, who spoke at the last meeting as the representative of the workmen, said that the practice of "St. Monday" was dying out. That did not coincide with his (the speaker's) experience. He had made some calculations, and in his experience (and taking the most favourable kind of jobs from the point of view of the workman, viz., large jobs, in the heart of London, where the best class of workmen could be got) quite 10 per cent of the men did not go to work on Monday. Last Christmas-day fell on Tuesday, and on two jobs that he had in hand at that time the contractor decided that in order to get over the difficulty of the Christmas holiday (for it was not only a difficulty of Saturday and Sunday, but of all holidays) it was

decided to close the works for the whole week, so that there should be no excuse for the men not coming to work at the proper time on the following Monday. Unfortunately, the result was the same as on the previous Christmas, where the works were not closed in the same way, and rather over 10 per cent. of the men failed to turn up. This seemed to be an ineradicable tendency on the part of the British workmen of to-day. The second point he had to refer to, which was even more serious, was the tendency of the men and the unions to act in the belief that to benefit themselves by raising wages the workmen should reduce the output. Now, unquestionably this tendency did exist, notwithstanding what had been said to the contrary, and it was shown in many ways, and very clearly in regard to the extra price charged for overtime. In all the trades, with two exceptions, in the building trade, if the builder wanted a man to work a quarter or half an hour after five o'clock, whatever pressure there might be that man had to be paid rate-and-a-quarter, and that, of course, made overtime prohibitive, unless the employer was prepared to pay more for the work. The two exceptions were the plumbers and labourers, who worked up to seven o'clock in case of necessity without the extra 25 per cent. overtime. He did not understand why the unions did not permit the men (the individual man was perfectly ready to do so) to stay on a job a longer time when necessary (up to, say, one hour per day), without extra pay. If that were done, it would be a benefit to the men as well as the employer. The extra charge for overtime might very well mean a large extra cost to the work, especially as the men did not give anything in the way of greater efficiency in labour for the extra money received. This conviction on the part of the men and the unions that in reducing output they were keeping up wages was a most serious matter, and deserved the serious attention of the unions, whom he did not altogether blame in the steps they had taken to safeguard the interests of the men, and their influence had undoubtedly benefited the men and the employers and general public; but so far as that influence abetted the tendency to limit output so as to increase wages, it was bad. The unions were responsible for another fact, and that was admitting into their ranks incapable men who, when admitted, had to be paid the union rate. It might be said that that was more a matter for the unions, but that was not so, because it very much concerned the employer, and it really affected the general public, if an indifferent bricklayer had to be paid 10½d. an hour, or the same as the best and most capable man. During the last carpenters' strike many inferior men were let into the trade-union, and for the rest of their lives they would be entitled to receive the highest rate of wages, though they might not be worth more than three-quarters of that rate. Wages had risen during the last thirty years from 8d. to 10½d. per hour, but there was a good deal to be said for that increase. The increase of rents for workmen's cottages had been from about 6s. to 10s. per week; the emoluments of other classes and the general standard of wealth had also risen; and the workman was entitled to his increase for those reasons; but the question was whether the work had risen in effectiveness. From what he could learn, the average workman of the present-day (and by that he did not mean the old worker of twenty-five years ago, living and working now) did not do such good work, and his effectiveness had gone down 30 per cent.; and in so far as that was a fact, the case for the increase of wages was not made out. He did not mean to say that that was so with all workmen in the building trades, and he knew of an instance of an ironworker, a fitter, an excellent workman, who was only receiving 8d. an hour, which was a case, on the other side, of a man getting less than he was entitled to. But he feared that workmen were not the only class who had shown a desire for greater comfort in return for less exertion. We were suffering from the results of the unexampled prosperity of the past few decades, and other classes had shown indications of the same tendency as the workmen. Perhaps the period of sharp competition now to be expected would wake up the workman, traveller, and manufacturer alike.

Mr. T. M. Rickman, Past President, said that one of the most important matters Mr. Blashill had touched upon was that of labour. All of them who were engaged in building work must have spent time in watching workmen at their work, and with a little experience one could tell the kind of stone, for instance, a man was working on by the character of the blow he inflicted upon it, and the workman's character by the effect of that blow. Within the last fifty years machinery had been brought to bear on the trades of joiners, carpenters, plumbers, and masons, and much that used to be done by muscular exertion was done by machinery, and the workman was now expected to work more with his head. Most people would have supposed that with such a great diminution of physical exertion there would have been a much larger amount of work done per man per day, but they had heard that hours of labour had been reduced, the amount of work eminently reduced, and the wages largely increased. Forty years ago an intelligent joiner he knew was hoping soon to get 1*l.* a week on which he would marry. There were few joiners now who got much less than 2*l.* per week, and for much shorter hours. What he thought all must have hoped would have followed the reduction of hard physical exertion was that workmen would have exercised their wit and endeavoured to do good and full work and make a position in the world for themselves. He was afraid the men had not progressed in that way. The position of the architect as arbitrator had been referred to; he thought that no man could become an efficient judge unless he had been in the habit of taking a side, and that on both sides. Now a building surveyor was in that position; he was sometimes engaged by the builder and sometimes by the architect and which ever side he worked for he endeavoured to do his best for it. An architect had seldom that opportunity; he was called upon to act as arbitrator between the builder and the client and seldom acted for the builder exclusively. For that reason he thought that as a rule the building surveyor was a more proper person to act as arbitrator than one engaged exclusively in architecture. He had been much struck in study ing buildings, ancient or modern, by the fact that whatever the material used it dated itself. One could tell in any modern building when cast-iron fell out of use and wrought-iron came in; when rolled lead instead of cast lead came in; and by looking at the saw marks one could tell whether timber had been worked by a circular or straight saw. In that way one could tell within a few years the date when a building was erected. The mark of present-day buildings was that of machinery. The question between employers and architects was largely one of time, and the use of machinery was a question of time—the time of the workmen as well as the time taken to build — and many questions between architects and surveyors were questions of time. If an architect was allowed more time, he would prepare his drawings in detail, and as he (the speaker) used to prepare drawings when he was in his articles: every detail was made and no questions were asked as to any detail in the course of the work. Such details were very important, and if they were supplied to the builder at the beginning he would be able to make his arrangements accordingly; if they were not, there was no time to do what was really necessary if the work was not to be delayed. It was very much the same in regard to divisions of trade; if the client could make up his mind, and give the architect reasonable time to prepare his design, many troubles as to sub-contractors would be obviated.

Mr. E. Dru Drury said that, as to the want of time—the little time which the employer gave them to carry out work—he might mention two experiences he had had, one of preparing designs, specifications, and quantities, and putting up new factory buildings in three months (which showed the difficulty one had to contend with on the ground of time); and the other where the ample time of six months was given to rebuild certain premises. As to the British workman, he was thoroughly in favour of the workman combining for his own protection. That was what every one did, even architects and surveyors. But the objection to trades-unions was as to unwritten laws, and any one who knew anything of the unions knew that there was a great deal of that. It had been said that a bricklayer now would lay 470 bricks per day, which was a very liberal estimate. He had been assured that day by a building surveyor and foreman that it was a good result for a bricklayer to lay 400 bricks, but that he could easily lay 800. Of course, the bricklayer would tell them that in laying 400 bricks he had lifted so many tons, and that he ought not to lay more; but was that to be the standard for all? What appeared to him to be the evil was the levelling-down principle of trades-unionism. As mentioned by Mr. Blashill, the average workman had no incentive to do his best and there was no doubt that that was perfectly true. Architects, surveyors, and others, when they were articled, looked forward to the time when they would become principals, but the British workman was condemned by the unwritten law of trades-unions to keep down to the level of his less capable fellow workmen, notwithstanding what Mr. Taylor might say. There had been a great falling off in apprenticeship, but there appeared to be a desire for a reintroduction of the system. In the *Times* some time ago eleven secretaries of trade societies wrote advocating apprenticeship in order that craftsmen might properly learn their trades and remarking that technical schools, though very well in their way, did not supply the want; they were not within reach of the great majority of young men serving their time, but they were very good adjuncts to apprenticeship. A gentleman of his acquaintance was asked recently to take the surveying class at a technical school, but he refused when he heard that the object was to turn out young men so that when they had gone through their course they would be able to take surveyors' places. That gentleman had served three years as an articled pupil, without pay, in an architect's office, and he did not think it desirable or possible to turn out young men in three months to compete with fully-qualified gentlemen.

Mr. W. Shepherd said that, from a contractor's point of view, he could hardly appreciate Mr. Blashill's desire for more consideration to be shown to the client or employer. In his experience, and it was not slight, the employer was the source of much trouble in regard to building contracts. As a rule, the client knew pretty well what he wanted, and how much he was prepared to spend, but in nine cases out of ten the client's ideas of cost were altogether inadequate, and the architect was in an impossible position when asked by the client to give an estimate as to cost. It was a very difficult thing for an architect to estimate the cost of buildings, however great his experience might be, and in his opinion every job had its own price, and it was not possible to adopt any rule of thumb for arriving at the value of a particular building. In many cases the amount of the tender was in excess of the amount the client was prepared to spend, and the architect had to modify his design in order to come within the limit of cost imposed by the client, and very often things were taken out from the design which had subsequently to be re-introduced. All this indicated the difficulties which arose in consequence of the action of the client. He did not think that Mr. Blashill recognised to the full extent the importance of the quantity surveyor, and he thought that, with our modern methods, the quantity surveyor was a necessity, and endeavoured to do what was just to all parties. He agreed with every word that Mr. Rickman had said as to the building surveyor being more fitted to act as arbitrator in building disputes than any other professional man who had to do with building. As to the possibility of doing away with sub-contractors, or to the inconvenience of them, he thought the word "sub-contractor" was a misnomer: what was meant was the specialist. As had been said, the question of time had much to do with this, and if the client gave the architect sufficient time to show clearly everything that was required for the completion of the building, it would be to the client's interest to let the general contractor deal with these specialists. He was positive that the specialist got an enhanced price where the architect went direct to him, and he knew practically there was to be no competition. In regard to the labour question, he was very much interested in Mr. Taylor's speech on the last occasion. He thought Mr. Taylor was to be complimented on his candour, and from the labour point of view there was not much to be found fault with in Mr. Taylor's remarks. It was within his, the speaker's, knowledge that Mr. Taylor was appointed to settle a dispute between two trades as to who should do certain work, and Mr. Taylor, a bricklayer by trade, decided the case against the bricklayers, and brought a good deal of trouble

upon himself in consequence. To a certain extent Mr. Taylor dissociated himself from the collective opinion of his class, and altogether not much exception could be taken to what he said, although he seemed to rely upon his imagination in one or two cases. He, the speaker, did not think there was any deep-laid conspiracy on the part of the men to diminish the output or to do the minimum of work. The trouble was not due to that at all, and if the matter were looked at carefully the trouble would be found to be due to collectivism. As to what Mr. Taylor said about it being customary, on works where he had been, for the younger men to take a longer stretch so as to help the older men, if Mr. Taylor meant that that was at all general he felt that that was not according to fact. He remembered when there was practically but one trade-union, and that was the Operative Stonemasons, which was not instituted for the purpose to which modern unions applied themselves. In its early stages it was simply a benefit society, and so far it was a useful institution. It was, he believed, in 1858 or 1859 that the funds of this society were applied, on the occasion of the great lock-out, and a few years before, at the building of the Houses of Parliament, in an endeavour to get a rise of wages. If a member of the Masons' union had been promoted from banker to foreman, he received a notice in those days from the society that he was not to attend any of the lodge meetings; but it was otherwise now, for societies such as the Bricklayers', Plasterers' and Joiners' endeavoured to force foremen into their ranks, so as to have them under their control; and if a foreman exercised any preference in giving employment to competent workmen he was a marked man in his society. He (the speaker) had known many instances of a foreman being summoned to his lodge and fined because he was exacting more work than what was considered to be right. How all this was to be altered he did not know, especially as now, in the case of building contracts for Public Authorities, it was a condition that the workmen were to be paid trades-union rates, and the hours were to be those recognised by the unions. That meant that every incompetent man employed on a work got the full rate, and while that was so, what incentive was there to a man to excel either in the quality of workmanship or the amount he did?

Mr. Arthur Vernon said there were three important points which he would like to refer to, and which he would put in the order of their importance, the first of which was the relation of capital to labour. Most of them had had painful experience of labour troubles, and they could not feel that some of Mr. Taylor's views were consistent with the facts. There was something entirely wrong with the present state of labour. John Stuart Mill said that he did not believe that the labouring classes would ever be content to work for wages, and he remarked that the great drawback was that the workman tried to get all he could for as little labour as possible. The remedy, Mill thought, was some form of partnership, either with capitalists or among themselves. That was the great problem that had to be worked out by public opinion and necessity. What we had to do was to see that men were not limited in their output, and were not dragged down to one common level, but each left free to earn what he could. That seemed to be the only solution, in our country, of the problem of the condition of the labour market. Trades-unions, as such, could not be objected to, and he saw no harm in them, for he sympathised with any arrangement that made for the well-being of the labourer. With regard to the rapid increase of cost in buildings in the country as well as in London, that was a national calamity, for it obstructed general progress. Some cottages for labourers he had built in the country a good many years ago cost from 6d. to 6½d. per cubic foot. Exactly the same buildings erected to suit the modern by-laws cost from 6d. to 8d. per cubic foot. That increased cost was due to the rise of about 20 per cent. which could be equally divided between capital and labour, and also to the local by-laws, which were absolutely unnecessary in country districts in many cases. As to the relations between architect and employer, he would like to remind them that nine out of every ten buildings erected gave rise to no trouble, and it was only the difficult cases one heard of. In the great majority of cases employers, architects, and builders got on very well indeed, and with very little friction. In forty years' practice he had never had a suit at law with either builder or employer, though he had been very near it once or twice.

The Chairman, in closing the discussion, said they were greatly indebted to Mr. Blashill for his admirable paper and to those gentlemen who had taken part in the discussion. He believed that the paper and the discussion would be of value to the building trade and the Institution.

Mr. Blashill, in reply, said he would have been glad to have had more discussion from the workman's point of view and from workmen. He had tried to treat the whole question as a question among colleagues, because not one of them connected with the industry could easily be dispensed with, and all should work together with as little friction as possible. He had been misunderstood to say that he thought the quantity surveyor should write the specification. He thought the quantity surveyor would write a more logical document, but that the architect would know best what ought to be put into it. As a matter of fact, the architect ought to write the specification, and not trust to the quantity surveyor for it. He still thought that builders ought to be encouraged to do the ironwork in a building, because architects could get it tested just as well as they could test timber. Mr. Mann had asked how he (the speaker) would ascertain the proper prices to settle up the account. That was a difficult matter, because the builder did not like the prices in the tender to be seen by the architect. It had been his practice to have left to his judgment the settlement at the end of the prices, in contracts, for extras and additions; but every builder would not be satisfied with that arrangement. On the other hand he thought it was quite inadmissible, as a matter of business, to leave it entirely to the builder, because even if the builder did not intentionally go wrong in the prices, there was the liability of mistakes. Why should not the quantity surveyor be allowed to look through the prices? As to labour, he did not see how Mr. Taylor made it out that there was any relation between the increase of wealth of a country and the labour of individuals; but it was a very difficult question to deal with. We should get into a fog if we made any comparison between the two things. Mr. Taylor's account of the conduct of the workmen was fair on the whole, although it reminded him of the historic complaint of a man who was convicted of some crime by two men who had seen him do it, although he could have brought forward in his defence twenty men who had not seen him do it! The fair workman may not always see the things done that were complained of, but he was afraid many of those things were done. Mr. Taylor threw some doubt on the statement which had been quoted from Lord Brassey's paper, as to some work which should have cost 2*l.* 17*s.*, but which actually cost 5*l.* He (the speaker) ought to have mentioned that Messrs. Lucas, for whom the work was done, gave full particulars at the time that they gave their statement. The work was for the railway station, with hotel buildings, at York, and there was no doubt that what the firm said was perfectly fair. As to the diminution of the work, no one suggested—certainly no one could prove—that the trades-unions did directly, by written law, advocate the diminution of work. But that was not all. A builder had written to him saying that during the last ten years the increased cost of labour had been from 75 to 100 per cent., and that accorded with information from various sources. If the increased cost of labour had been so much, and the increased cost of wages only 10 per cent., where had the remainder gone? No one seriously denied that there was loitering of some kind, and if there had been any one ready to deny that, he should have been prepared with a good deal of evidence. Any one interested in the subject he would recommend to read the works on Trades-Unions and on the Social Democracy by Mr. and Mrs. Sidney Webb, which dealt very fairly with the subject. They mentioned the system of working slowly, and they mentioned it to blame it—it was called in the north "going canny," *i.e.*, going cunning, or shifty; and the existence of a thing that had a name could not very well be denied; it was thoroughly well known to exist. This sort of thing was reprobated by Henry Fawcett, who referred to it in strong terms in his "Political Economy." He said: "These restrictions [upon work] can on no grounds be defended," and he went on to say: "A much greater wrong is caused by preventing men following the employment they have selected. There is no right to which all men and women have a more indefeasible claim than that of an absolute freedom to follow those pursuits in which they are best qualified to succeed. The laws of a free country ought to secure to every one this right, for if it is denied, individual freedom ceases to exist." He (the speaker) thought that apprenticeship might have been dealt with a little more in the discussion, especially as there were people who had great belief that the system would be revived, and that well-conducted boys would work three or four years in shops and become competent workmen. He hoped it might be so. As to a system of partnership for the men, why did not the men develop something of the kind? If workmen did not like the existing system, they were not bound to it, and if they thought they could work better in co-operative partnership, why did they not do so? No client, architect, or surveyor—and, he should think, no builder—would be afraid of such a thing.

The Chairman announced that the next meeting will be held on April 15, when Mr. Walter C. Ryde will read a paper on "The Rating of Public-houses."

The meeting then terminated.

BUILDING BY-LAWS IN RURAL DISTRICTS.*

A DEPUTATION appointed by the Council of the Royal Institute of British Architects waited on Mr. Grant Lawson, Parliamentary Secretary to the Local Government Board, on Tuesday, the 12th inst., to lay before him the views of the Institute on the question of administration of building by-laws in rural districts, which had already been expressed to the Local Government Board in October, 1899, when Mr. T. W. Russell received the representatives of the Institute.

The deputation consisted of the following gentlemen:—Mr. W. M. Fawcett (Past Vice-President), Professor T. Roger Smith (F.), Mr. Lacy W. Ridge (F.), Mr. H. D. Searles-Wood (F.), Mr. E. Guy Dawber (A.), and Mr. W. J. Locke, Secretary.

The points submitted to Mr. Grant Lawson had been summarised as follows:—

1. That there has been of late a great increase of interference by public bodies and their officials with buildings in country places.

2. That this has arisen from the Local Government Board having permitted, and in fact encouraged Rural Authorities to take to themselves "urban powers."

3. That such an assumption of powers by a local authority is an unnecessary and vexatious infringement of the liberty of the individual subject.

4. That it is undesirable, except perhaps in public buildings, that Local Authorities should relieve private persons from their responsibility for the soundness and sufficiency of their building construction.

5. That there is no desire on the part of the Royal Institute of British Architects to limit the application of such by-laws as are strictly sanitary in their object.

6. That there is no objection to by-laws as to the width of streets being generally applicable, as they would remain inoperative while a district remained rural.

7. That a complete and efficient by-law as to party walls would sufficiently protect each individual from the danger of fire from his neighbour's premises in country places, in uncrowded districts, and wherever streets are laid out with the width and spaces required by the by-laws.

8. That in such places the minute requirements of the by-laws against fire, founded as they are on the legislation originally passed for overcrowded London after the Great Fire, are unnecessary and vexatious. They are frequently rendered grotesque by the erection of large structures in wood under the form of balconies and verandahs.

9. That the Local Authorities are practically dependent on the Local Government Board for assistance and direction in framing by-laws.

10. That the scheme of the R.I.B.A. is that the Local Government Board should arrange their model by-laws in divisions, and sanction in each district only such as are really needed therein, and so protect the public from vexatious interference in building.

11. That this is a matter to be met wholly by administration within the Board, and does not require legislation.

R.I.B.A. Suggestions for Legislation.

1. That the system for dealing with party walls

* Extracted from the "Journal" of the Royal Institute of British Architects, March 23, 1901.

Old Houses, Fore Street, Cripplegate, London, E.C.

by the appointment of three surveyors as re-enacted in the London Building Act, 1894, has proved successful during a long period.

That it is desirable that it should be extended to the growing suburbs around the districts of the London County Council, to such towns as are without special legislation on the subject, and to England and Wales generally.

2. That it would be desirable to establish a tribunal of appeal in connexion with the Local Government Board for settling differences which arise as to the meaning of by-laws and building regulations.

That to be of value the tribunal must act with speed and have technical knowledge.

Mr. Grant Lawson, replying to arguments in support of the above points, said that both the President of the Local Government Board and himself were agreed that evils did exist in the present system of administration of building by-laws, and that there should be a difference in the codification of by-laws for rural and for urban districts. The proposals of the Royal Institute had received careful consideration, and since the appointment of Mr. Walter Long and himself efforts had been made as far as possible to adopt them. Mr. Lawson first desired to point out that it was not the function of the Local Government Board to take the initiative in the question of district by-laws; the Board only approved by-laws submitted to them by Local Authorities. It was not in the power of the Board to compel a Local Authority to adopt any particular set of by-laws. As regards encouraging local bodies to take "urban powers," the Board only did so in cases where very insanitary conditions rendered such a course desirable. With regard to meeting the views of the Institute, the Board had drawn up a set of proposed model by-laws for Rural District Councils, on which he invited the opinion of the Institute. These by-laws were scheduled as follows:—

(*a*) Interpretation of terms.
(*b*) Exempted buildings.
(*c*) Structure of walls and foundations of new buildings for purposes of health. With respect to the sufficiency of the space about buildings to secure a free circulation of air, and with respect to the ventilation of buildings.
(*d*) With respect to the drainage of buildings.
(*e*) With respect to water-closets in connexion with buildings, and with respect to the keeping of water-closets supplied with sufficient water for flushing.
(*f*) With respect to earth-closets and privies in connexion with buildings.
(*g*) With respect to ashpits in connexion with buildings.
(*h*) With respect to cesspools in connexion with buildings.
(*i*) With respect to the closing of buildings or parts of buildings unfit for human habitation and to the prohibition of their use for such habitation.
(*j*) As to the giving of notice; as to the deposit of plans and sections by persons intending to construct buildings; and as to inspection by the Council.
(*k*) Penalties.
(*l*) As to the power of the Council to remove, alter, or pull down any work begun or done in contravention of the by-laws.
(*m*) Repeal of by-laws.

Mr. Grant Lawson pointed out that these proposed by-laws were mainly sanitary in their application, and that regulations as to materials and structural details were omitted.

With regard to the request of the Institute for an extension by legislative means of the party-wall system in London to all districts in England and Wales where no special legislation existed, Mr. Lawson said that he could not promise any action this summer, but he would add the subject to the list of Bills which the Local Government Board hoped to introduce at some period during the continuance of the present Government.

The deputation having thanked Mr. Lawson for the courteous action of the Local Government Board in submitting the draft model by-laws for the consideration of the Institute, and also for the sympathetic manner in which he had received them, then withdrew.

The questions are now before the original committee of 1899, who are preparing a report to the Council.

OLD HOUSES, CRIPPLEGATE, E.C.

ADJOINING the north side of St. Giles' Church, Cripplegate, is a group of old buildings which will probably soon be pulled down. The sketch shows the frontage towards Fore-street. On the right is the entrance to the churchyard of St. Giles' Church, the spandrils of the arch ornamented with an hour-glass and scythe on one side, and a skull and cross-bones on the other. Two hour-glasses are placed as a finish to the pediment, and on a panel below are the names of the churchwardens—Edward Dobson, John Clarke, Isaac Bennett, and Thomas Comry—and the date, AN. DNI. 1660. Eastward are four houses, known as the "four shoppes," with a bay window of two stories to each. The shops themselves have been modernised, and the windows in the bays have been altered. Eastward again is the arched passage leading to the north porch of St. Giles' Church. This forms part of the Quest House, which is partly built over it. Beyond is the chancel of the church, now exposed by the demolition of some buildings eastward. The "shoppes" have a quaintly gabled frontage towards the churchyard constructed almost entirely of wood.

SANITARY OFFICERS.—The Local Government Board have sanctioned the appointment of Dr. W. A. Bond, Medical Officer of Health of Holborn, and of Dr. J. J. Allan, Medical Officer of Health of the City of Westminster. They have also sanctioned the appointments of the following sanitary inspectors in the undermentioned Metropolitan Boroughs:—Mr. J. Johnson, Poplar; Mr. W. J. Storer and Mr. E. J. Dillon, St. Pancras.

WESTMINSTER ABBEY.

AT Carpenters' Hall, London Wall, E.C., on Thursday last week, Professor T. Roger Smith, the Master of the Carpenters' Company, gave a lecture upon "Westminster Abbey." The chair was taken by Mr. A. Preston, who mentioned that it was eighteen years ago since he brought forward the proposition to hold these lectures, and they had been held continuously ever since. Their success was largely due to the efforts of Professor Roger Smith and the late Professor Banister Fletcher.

Professor Roger Smith, whose lecture was illustrated by limelight views, said that a host once asked his guests what they considered the greatest English work of art. The replies were various. One guest suggested Handel's "Messiah," another Turner's great series of landscapes in the National Gallery, and a third mentioned a piece of sculpture. The host, however, disagreed with them, and claimed that Westminster Abbey was the greatest English work of art. He pointed out that its associations were most varied and dear to the English mind, and by its beauty it held a high place among the famous buildings of the world and the highest among those of Great Britain. The early history of the Abbey was lost in tradition, but it was certain that a church stood on the site before the time of Edward the Confessor, who pulled the building down and rebuilt it, so that it was not too much to assert that for considerably more than a thousand years prayers had been offered at this spot. As rebuilt by Edward the Confessor the church covered almost the same ground as it did now, but it was far less lofty. This building was consecrated about 1065, and the other buildings which formed the Abbey itself were erected at the same time, and the church was known as a Benedictine abbey. The taste in architecture changed rapidly and repeatedly between the twelfth and sixteenth centuries, and so complete had the change been between 1165 and the accession of King Henry III. in 1216 that the building had become quite out of fashion. Henry III. commenced to rebuild it in 1220, the rapid growth in architectural taste being a sufficient inducement for him to undertake the task at the time when the work presented far more difficulties than now, and when the cost of the erection was infinitely more formidable. The beginning of the thirteenth century, however, was a great church-building era in Western Europe, men's minds having been stirred by the Crusaders. After the death of Henry III. the work of rebuilding was carried on by successive monarchs, but not with the same energy. Other changes in taste had taken place, and the Abbey showed the effect of them, but not in a marked degree, the heights and proportions fixed in the thirteenth century being adhered to. The lecturer then showed views of the Abbey. The first was a ground plan, and he pointed out where the old gate-house used to stand which for a considerable number of years was used as a State prison. The next views depicted the exterior of the Abbey from various standpoints —the end of the north transept, which had practically been rebuilt in our own time; the outside of Henry VII. Chapel, which possessed great interest as being a specimen of essentially English style; the flank wall of this chapel, giving a view of part of the cloister and showing some of the buttresses which support the walls and resist the pressure of the roof; and a view of the avenue in the cloisters where the monks played in order to lighten the tedium of their life. A picture of the Chapel of the Pyx was next shown, and Professor Roger Smith explained that this was the place where the coinage used to be tested. He said every precaution had been taken in the way of locks, but as an additional safeguard a skin, which was believed to be a human skin, had been placed over the door. Views of the Chapter House were given, with the Jerusalem Chamber, in which the Old and New Testaments were revised. The lecturer then showed views in the Abbey itself—the beautiful transepts, the organ screen, the choir stalls, the altar, the Chapel of Edward the Confessor, the Coronation chairs, and the outside of the special place where in olden times were kept the wax effigies of notable persons which, when those persons died, were taken round the streets as a proof of their death. There were still six or seven remaining in various stages of decay, the least decayed being that of Nelson. Views were also given of some of the statuary, which the lecturer said was sometimes out of keeping with the style of the building, but the Abbey was so lofty and beautiful that these did not have any effect.

A vote of thanks concluded the proceedings.

THE ART OF FRESCO PAINTING IN ITALY.

IN connexion with the Incorporated Institute of British Decorators, Dr. George C. Williamson, the editor of Bell's Handbooks of the Great Masters, delivered a lecture on Monday evening at the Painters' Hall, Little Trinity-lane, City, upon "The Art of Fresco Painting in Italy." The President of the Institute, who was in the chair, mentioned that during the two years since the Institute had been incorporated, the membership had reached 350.

Dr. Williamson said the subject was so vast that he was obliged to omit the early history of fresco altogether. In the first place it was necessary to explain exactly what fresco work was. Fresco buono, or true fresco, was painting upon wet plaster with colours that were mixed with water or lime-water, and there was also fresco secco, which was painting upon dry plaster. Tempera painting in Italy, although not true fresco, was often done. Generally some fluid or gelatinous substance was used with the colours, such as egg, size, or gum. Fresco and tempera painting were very ancient arts; paintings on plaster were found in Egypt, Babylon, Greece, and very largely in the tombs of Etruria, and apparently it was a favourite form of indoor mural paintings. There were certain broad advantages and disadvantages with regard to buono and secco fresco. The disadvantage of the secco was that it would not bear exposure to the weather, and that the colours could be rubbed off; but, on the other hand, it could be painted leisurely. With buono fresco the work had to be done hurriedly, and only a certain portion of plaster was put on at a time, so that the artist could paint upon it before it dried. The painting upon wet plaster was the most lasting, as the colours crystallised with the plaster. There was no true fresco work in England, but there was some partly fresco and partly tempera in some of the ancient churches. In Italy the art assumed far greater importance than it ever did in England, even down to the time of Raphael. In the thirteenth century Giotto was practically the great beginner of the art of fresco painting in Italy. His pictures in Florence of the "Slaughter of the Innocents," "Chastity," "Obedience," and others showed his great ability to tell a story, and his desire to do so clearly by introducing as few figures as possible. The drawing was crude and the figures stiff, but he showed a strong wish to put as much character as possible in the faces. In the early part of the fourteenth century fresco showed a considerable improvement. There was an effort on the part of Orcagna, Altichieri, Fra Angelico, &c., to show the pictorial importance of a picture—a stronger attempt at dramatic power, and an effort to represent all the figures as taking part in the central scene. At this time a good deal of the work was done in tempera. Fra Angelico was one of the greatest painters in fresco work. His "Crucifixion," with the figure of St. Dominic at the foot of the Cross, was full of sweetness and simplicity. His picture of our Lord as a pilgrim, and the representation of the Lord's Supper, which was to be seen in the Convent of St. Mark, were also splendid specimens of the work of this devout artist. The background to his pictures was always a representation of parts of the convent in which he lived and worked. Following him came Masolino, whose picture, "Tribute Money," showed two or three different scenes in one fresco; and Benozzo Gozzoli, who introduced a great deal of colour, and natural objects. Coming down to 1470 we saw more and more tempera work, and the introduction of the classical style. Then about this period it was the habit of rich families to entrust an artist to decorate their private chapels with frescoes. Contemporary portraits were introduced in the pictures, sometimes representing the donors as taking part in scenes which happened hundreds of years before. The golden period followed, commencing with Leonardo, who made the experiment of painting with oil, with a very deplorable result. At this time, also, sketches were first made, and the cartoon, pounce, and stylus were used. Then came the great Raphael, in whose time fresco work reached its highest point, and next the period of Michelangelo, when pagan art was carried into sacred subjects. Fresco work afterwards deteriorated very much with the Venetians, who simply used it to decorate the outside of palaces and private dwellings, and it became mythical, without detail and without power.

In the course of the lecture views were shown illustrating the work of Giotto, Orcagna, Altichieri, Masolino, Fra Angelico, Benozzo Gozzoli, Lippi, Raphael, Leonardo, Luini, Michelangelo, Correggio, &c.

The Master of the Painters' Company proposed a vote of thanks to the lecturer.

The Bishop of Rochester seconded, and the vote was carried.

WASHINGTON AND ITS NEIGHBOURHOOD.

THE following is the historical sketch of the history of the architectural development of the city of Washington and its surroundings, drawn up by Mr. Glenn Brown, the Secretary of the American Institute of Architects, and referred to in our Note on page 206 *ante*. We give it as an example for other cities and governments. It will be observed that Mr. Brown comments strongly on the mistakes which have been made through allowing improvements to fall into the hands of isolated persons, each working his own pleasure, instead of proceeding on a broadly defined general scheme:—

"The original plan of the city of Washington was matured by Peter Charles L'Enfant, after studied investigation of the site by George Washington and himself, and after a careful consideration of the existing as well as many proposed plans of the Old World cities. In the preparation of this plan the location of the buildings and parks were mapped out on broad and effective lines, so as to attain harmony as well as utility in grouping the whole scheme into one unit.

Prominent points were selected for the principal buildings and proposed monuments. Stretching from the site of the Capitol to the site of a proposed monument, the broad reach of the Mall was planned, and crossing at right angles to this site was the axis of the Executive Mansion and park. Radiating streets from central points with buildings or monuments at the end of pleasing vistas formed another feature of special beauty. The fundamental idea of the scheme was a dignified, formal, and artistic approach and setting for these principal architectural monuments. The plan does not appear to have been copied from any existing city. The radiating streets and vistas of modern Paris were all devised under the two Napoleons, and L'Enfant's and Washington's plan was drawn in 1791.

The plan of the streets with their noble vistas and the outlines of the park system were executed, and the Capitol and Executive Mansion were built on the sites selected. From this point in the development of the city of Washington to the present day the idea of a general and harmonious scheme seems to have been forgotten, and the landscape of each section of the Mall has been treated as if it were an individual park and had no bearing or effect upon the Capitol, Monument, or Executive Mansion. Although these parks may in one or two instances be beautiful in themselves, the object and end of the original designer has been ignored, and the country has lost the opportunity of seeing one of the grandest architectural and landscape effects which has ever been devised.

The general design suggested buildings on the north and south of the Mall which was evidently intended to be an open space with boulevard ornamented with planting, sculpture, and objects of art similar to the grand openings in Versailles and Fontainebleau, which gives such magnificent views of the buildings and forms such a far-reaching vista of exquisite beauty. Instead of following this grand scheme as devised, our Government buildings in Washington have been located wherever whim, fancy, or local interest dictated at the time of their erection. The effectiveness of vistas on the avenues has been destroyed; the utility, unity, and grandeur of massing or grouping such structures has been ignored, parking destroyed, and the building of noble structures scattered without design or reason. This is much to be regretted, as the money expended

on such buildings could have easily produced unsurpassed effects.

The early Presidents—Washington, Jefferson, and Madison—took an active and painstaking interest in the design of our early buildings, as well as in the general plan of the city. Being cultured men, they in no instance failed to search out and employ the most talented men in the profession to take charge of Government work, and did not fail to insist upon adhering to Thornton's plan of the Capitol, Hoban's plan of the Executive Mansion, and L'Enfant's plan for the city. They did not seek for novelty in details, but strenuously insisted on the execution of the work in accordance with the academic forms of architecture as practised in that day. In after years the buildings and park treatment were delegated to separate individuals, who appear to have thought their own project the only one to be considered, and all unity of effect has been lost. Since the time of L'Enfant we have added to the park system the Riverside Park by reclaiming the flats, the Zoological and Rock Creek parks, and the Arlington estate, on the south side of the Potomac, by purchase.

We now need for Government and municipal service many new structures for Washington City. The old park system is undeveloped except in limited places, and in no instance with reference to the buildings. The new park system is undeveloped, and the sites for contemplated buildings, bridges, and statuary are unselected. The proper grouping of buildings so as to expedite the work of the various departments, to attain prompt and easy communication between departments of the Government in which business requires frequent interchange of duties, is as important as a system of grouping to attain artistic effect. The executive departments should be of easy access to the Executive Mansion and to each other. The various scientific departments should form another group, the courts probably another group, and buildings necessary for the convenience of Congress should be grouped in connexion and harmony with the Capitol.

Now is the time, on the hundredth anniversary of the foundation of the Capitol, to consider the propriety of another plan on which future buildings shall be erected, by which parks shall be laid out so as to enhance the effect and beautify the buildings, and by which grouping of monuments may add to the effectiveness of the whole. Now is the time for a general plan for connecting the park system, as well as devising the broad principles on which all parks shall be treated, which shall have a formal treatment, which shall be treated broadly for river and distant effects, and which shall be treated naturally because of their natural and picturesque beauties. To attain this end we feel that it is necessary to put the method of securing, selecting, and supervising such a scheme in the hands of a body of men eminent in the professions of architecture and landscape architecture, as this work is purely a question of artistic judgment in the departments of architecture and landscape treatment.

The artists of this country have shown themselves capable of producing effects surpassing those of other nations in the temporary work at the World's Columbian Exposition, where the work was laid out and carried into execution by a board of architects, landscape architects, and sculptors. It is a sad commentary on our present methods that we have in Washington no work by the architects, painters, or sculptors who have accomplished work on a par with similar work in other portions of the world. While in the earlier periods of our history the various classes of work in Washington were always represented by the most distinguished men in their various branches, in recent years our men honoured abroad in Paris are unhonoured in our capital city.

By a commission of the character called for in this resolution we would have a body capable of selecting the designs, or the men who would be most capable of producing the effects to be desired.

The opportunity is too great to be cast aside. No country has a building more noble, grand, or beautiful than the Capitol, a shaft more imposing than the Monument, a free space between these buildings greater than the Mall; with such an opportunity to treat it so as to enhance the effect of the Capitol, the Monument, and the Executive Mansion! No country has such a monumental structure as the proposed Memorial Bridge; let this be located so as to enhance most effectively the treatment of the Mall.

There are few more pleasing bits of landscape than the broad Potomac, stretching south of Riverside Park, with the hills of Virginia and Maryland on either side, with the beautiful colours of foliage in spring, summer, and autumn. How to treat this so as to enhance and emphasise the natural effects is a worthy subject for the highest genius. The National Zoological Park and Rock Creek Park are picturesque in the highest degree. Great skill, as well as a love for nature, requires that nothing should be done to jeopardise their natural beauties, but make them accessible and bring them into view, so they may be enjoyed. The most advantageous methods of connecting these parks needs also careful consideration.

We believe that the ends suggested in this Report can only be attained by the appointment of a commission such as is embodied in this resolution."

CONFERENCE OF AUSTRALIAN ARCHITECTS.

A CONFERENCE of architects was held at Sydney commencing on the last day in December, 1900. The Conference met on December 31, at the Institute's rooms, Vickery's Chambers, 82, Pitt-street, and on the motion of Mr. Edward Davies, President of the South Australian Institute of Architects, Mr. John Barlow, F.R.I.B.A., President of the Institute of Architects of N.S.W., was unanimously elected chairman of the Conference. On the motion of Mr. H. A. Wilshire, Messrs. Thos. Watts, Past-President of the Royal Victorian Institute of Architects; E. Davies, President of the South Australian Institute of Architects; C. W. Chambers, President of the Queensland Institute of Architects; and W. F. Cavanagh, Vice-President of the West Australian Institute of Architects, were unanimously elected Vice-Presidents of the Conference. Mr. A. B. Black, Hon. Treasurer of the South Australian Institute of Architects, moved, and Mr. A. B. Wilson, A.R.I.B.A., Queensland Institute of Architects, seconded, that Mr. G. Sydney Jones be elected Hon. Secretary of the Conference, which was carried unanimously.

The following delegates were present:—From the R.V.I.A.: Messrs. Thos. Watts, W. R. Butler, J. A. B. Koch, D. C. Askew and F. A. Fitts; From the S.A.I.A: Messrs. E. Davies, A. B. Black, M. S. Clark and Sydney Jackman; From the Q.I.A.: Messrs. C. W. Chambers, A. B. Wilson, R. S. Dods, W. C. Voller and E. M. Myers; from the I.A. of N.S.W.: Messrs. J. Barlow, G. Sydney Jones, G. Allen Mansfield, H. C. Kent, Jas. Nangle and others.

After some formal business had been transacted, the proceedings were adjourned until Wednesday, January 2, when the chair was occupied by Mr. John Barlow, and papers on the "Proposed Federation of Australian Architects" were read by the Chairman and Messrs. E. Davies, C. W. Chambers, and Charles Rosenthal, A.R.V.I.A.

In the discussion which followed, the Chairman said that it was for the meeting to determine whether the Federation of Architects proposed was to take the form of a Federal Council or a Federal Institute.

Mr. A. B. Wilson said a very good suggestion had been thrown out by Mr. Rosenthal that Commissions should be appointed, although it seemed to him that they must not go too fast in this matter, but must feel their way carefully. The idea of a central institute was also a good suggestion. The speaker found that the best return he could get for his subscription to the R.I.B.A. was a copy of the Transactions, as it gave one an idea of what was being done in Great Britain, and information could be obtained by this means which otherwise would be lost altogether. The question of the Federal Council had been occupying their minds for a considerable time, and he would like to know if the Government of New South Wales had in any way recognised the Institute of Architects.

Mr. Watts thought the difficulty would be to bring about this federation. He himself thought it a very desirable thing. All knew that union was strength, and he had found in Victoria, before the Institute had been founded there, that architects were without any influence at all, but as soon as they had formed themselves into a society they spoke with more authority, and brought themselves to bear upon the Government and all bodies contemplating building. Being separated by such immense distances was, to his mind, the difficulty in their co-operating, for if they did form such an association each colony would have to appoint delegates. However, they were to get united, and make their influence felt and wishes known in the different colonies.

Mr. Askew said when they all became federated they would have to work in all the colonies and not separately, and, therefore, they must have uniform charges. If the council were formed it would be the final court of appeal, and the institute of each state would have to submit to it. He would suggest that representatives from each colony be appointed to thresh the matter out, and report to the Conference at a later date.

Mr. Rosenthal said it would mean weeks and perhaps months of labour before a proper system could be arrived at, but he thought that the question of an Australian Institute should be considered. Let them all bear the same name and be members of the one brotherhood.

Mr. Watts moved and Mr. Chambers seconded:—

"That, in the opinion of this meeting, it is desirable that the architects of Australia form a Federal Institute."

The motion was carried unanimously.

Mr. Tolhurst moved and Mr. Askew seconded:—

"That the chief delegates from each state be appointed by this meeting to form an outline scheme of what is proposed to put before the Conference, for the purpose of submitting the same to the Institutes of the respective states."

Mr. Addison moved the following amendment:—"That one delegate from each colony be appointed to the committee."

The amendment was not seconded, and the motion on being put was carried.

Mr. Chambers proposed and Mr. Davies seconded:—

"That the report of the delegates upon the Federal Institute of Australasia be received on Saturday morning at ten o'clock."

The motion was carried unanimously.

Papers on "The Promotion of Architectural Education and a Travelling Scholarship" were then read by Mr. A. B. Black, on behalf of Mr. R. J. Haddon, Mr. Rosenthal, and Mr. Blackett, F.I.A. of N.S.W. (read by the Hon. Secretary).

On reassembling in the afternoon, the discussion on the question of "The Promotion of Architectural Education and a Travelling Scholarship," was resumed.

Mr. Butler, speaking upon the matter of Federal Scholarships, moved:—

"That this Conference heartily approves of the suggestion to establish a Federal Scholarship, and desires that the Federal Council shall give the matter its first consideration.

Mr. Chambers seconded the motion, which was carried unanimously.

Papers on the subject of "Investigating the Strength of Australian Building Materials" were read by Mr. A. B. Wilson and Mr. J. Nangle.

Mr. Wilson then moved, and Mr. J. J. Clark seconded:—

"That should the proposed Federal Institute become an accomplished fact this Conference communicate with the Federal Institute asking them to take the question of obtaining information as to the quality of Australian building materials into their early consideration."

The motion was carried unanimously.

At the third sitting on January 4, the following paper on "The Conduct of Competitions" was read by Mr. G. H. M. Addison:—

"This Congress has presumably been inaugurated with the one main object of forming an Australian Federal Institute. To help towards this end, it is well that we should exchange views on the general principles underlying those subjects which at an early date will have to be dealt with by the Council of the Australian Federal Institute. Not the least important of these will be the conduct of competitions. It is our misfortune that, owing to our profession having no authoritative recognition, there has been no general body powerful enough to enforce such a high ethical professional code as exists in the legal and medical professions. Nothing seems to me to stand so seriously in the way of the formation of such an ethical code as the lax conduct of competitions. A struggling architect, whose one chance of immediate prosperity is to win an important competition, is too often

faced with this difficulty, viz., that the conditions are such that he must leave the chance untouched, waste his time in a hopeless effort, or adopt means towards success against which his better nature revolts. Probably we have all of us at times been shocked by hearing some of those whose education and professional standing should make them leaders of correct thought, openly excusing doubtful practices in connexion with competitions. This reason, if there were no other, should be sufficient to put the question of competitions in the front rank of those to be discussed by the Federal Council. In this relation the first question will be as to how far the Federal Institute should countenance competitions at all. It is certain that in the past but few first-class architectural results have been achieved by competitions, and few committees or individuals who have since organised a competition are prepared to repeat the experience. This is due primarily to the absurdly loose way in which conditions of competitions are drawn up, but, to a certain extent also, to a defect in the system itself. The competing architect has not a free hand in solving the problem before him, but is subject to restrictions placed upon him by some one who may often be less able than himself, and who generally will have given much less attention to the question than is incumbent on a competing architect; consequently a design is produced below the full powers of the designer. Competitions, on the other hand, offer the young architect an earlier opportunity of showing his ability than would otherwise be likely to accrue to him, and also have some effect in rousing the older practitioners out of that monotony which is likely to be the result of long, successful practice. It will probably be conceded then that while competitions for ordinary buildings should generally be discouraged, for public buildings they are an advantage when wisely conducted. For such buildings no pains should be spared to gain perfection. Probably the best results would be obtained by having first a competition for plans only, and after paying well for these, issue the accepted plans, with as much criticism as is deemed necessary, in a competition for the completed building. The successful architects in the two competitions might then be appointed conjointly to carry out the work. In any case the aim in formulating conditions should be in the first instance to minimise the work of the competing architects. Whether this is best accomplished by eliminating perspectives is doubtful. Perspectives give the simplest method of showing the real effect of the finished building, which can only be got from the plans by a very practised critic. Conditions often fail in their desired object by being too precise in laying down under penal conditions the accommodation demanded. In most cases a description of the accommodation required, leaving the architect a free hand in providing it, would lead to better results. The estimating of cost is one of the great difficulties facing the adjudicator, and the results too often lead to disappointment. In fairness to competing architects, the conditions should indicate what method of computation of cost is to be adopted. A professional adviser appointed by the Federal Institute, whose decision should be final at least as regards the payment of premiums, is an essential stipulation, and it would be well if such adviser revised the conditions before they were issued. The question so often raised in these states of the right of civil servants to compete does not seem to me an important one. To enter a competition may be looked upon as tantamount to applying for the work, to which no other service should be a bar. In the case of Government work, however, it is clear that no Government servant who, by his position, has a knowledge of the preliminary work done in connexion with such competition would feel justified in competing. The above points, which seem to me the most salient, I have merely touched upon. I consider that in such a gathering as this, and in the short time at our disposal, we cannot hope to do more than express our opinions on main principles, leaving details for discussion in smaller committees. The practical suggestion with which I will close is that the Federal Institute carefully lays down principles on all the points necessary to satisfactory conditions of competition. That it then be insisted upon that conditions for any competition be submitted to the local Institute and be endorsed by them as satisfactory, embodying those principles, before members of the Institute shall compete. It must not be forgotten that competitions are impossible if architects will not compete, and by loyalty to each other we can soon remove all the evils of the system that are capable of removal."

Mr. Clark said he was not prepared at that juncture to enter into a discussion on the question of competitions. His general experience, which might embrace half-a-dozen Government competitions, had been that the work was always thrown away. If they could in some way or another touch upon the principle of the Government giving the work out, as proposed by their President, to architects, it would seem to him to be the only method of meeting the case effectually.

Mr. Butler thought it was hopeless for them to enforce any rules with regard to the conduct of competitions, and that it was best for them to follow exactly on the lines of the British Institute of Architects.

Mr. Askew moved, and Mr. Tolhurst seconded :—

"That one of the first matters to be dealt with by the Federal Council be the consideration of drafting conditions of competitions, especially with relation to the designing of important Government works."

The motion was carried unanimously.

On resuming the sitting in the afternoon, papers were read on "The Question of the Amount of Work carried out by State Governments to the detriment of Architects in Private Practice" by Messrs. A. B. Black and William Kenwood, F.I.A., N.S.W.

Mr. Butler thought the cause of the present state of things was largely because in the early days there were very few skilled architects in the colonies, and the sooner they could formulate their Federal Institute, train their men better, create a School of Architecture, and show the Government that they could do work better than the Government, they might be able to do more with the latter.

Mr. Clark moved, and Mr. Askew seconded, and it was agreed : "That it be an instruction to the Federal Council of Australian Architects to bring under the notice of the Federal Government the advantages of distributing the Government buildings throughout the profession instead of being confined exclusively to the Government Departments."

At a subsequent sitting a letter was received from the Builders' and Contractors' Association of New South Wales advocating uniform conditions of contract.

Mr. Cavanagh thought the suggestion was an excellent one, and he moved : "That the letter from the Builders' and Contractors' Association be acknowledged, and it is recommended that it receive the early consideration of the Federal Council." The motion was carried unanimously.

The Committee's report as to the formation of a Federated Institute of Australian Architects read as follows :—

1. It having been decided that the various State Institutes combine under federation, the delegates suggest that the Federated Institute be named "The Institute of Australasian Architects," and that steps be taken to obtain a Royal Charter entitling the use of the prefix "Royal."

2. Delegates suggest that the expenses of management of the R.I.A.A. be met by a percentage of the subscriptions collected by the State Institute.

3. That a committee of five members of the Institute of Architects of New South Wales be appointed by the delegates to draw up rules, regulations, and code of by-laws, and submit to the several Institutes for approval or amendment as soon as possible, and that any amendments or suggestions made by any Institute be submitted to each of the other Institutes for consideration, and returned by them in due course to the Federal Committee.

4. The objects to be :—
(*a*) The advancement of architecture.
(*b*) Uniformity of Australasian practice.
(*c*) Examination of applicants for membership after six months from incorporation.
(*d*) The general settlement of all matters affecting the mutual actions of State Institutes.

It was agreed that Clause 1 be passed.

A short discussion was entered into on Clause 2 regarding the payment of subscriptions, it having been suggested that the fee be *per capita*.

Mr. Black moved and Mr. Cavanagh seconded :—

"That Clause 2 be amended to read as follows :—'Delegates suggest that the expenses of management to the Royal Institute of Australian Architects be met by a levy *per capita* of the subscriptions quoted by the State Institute.'"

The amendment was carried unanimously.

Mr. Askew moved and Mr. Rosenthal seconded :—

"That Clause 3 be amended to read as follows :—' . . . and that the committee above mentioned be composed of Messrs. J. Barlow, Kenwood, and Jones, of the Institute of New South Wales, and two other members to be nominated by the Council of the New South Wales.'" This was agreed to.

Mr. Cavanagh moved an amendment to Clause 4 (Section *c*), to read as follows :—

" . . . but that the Council be allowed to waive the examination in the case of any architect whose work may be of such a nature in their opinion as to entitle him to be admitted to the privileges of full membership."

The Chairman said it would be an insult to men coming from England and America to ask them to submit to any examination of any kind.

Mr. Cavanagh thought a man should be compelled to reach a certain standard before he could become a member. This was what they required to give them the standing in the eyes of the public that they should have.

Mr. Kenwood was sure that on the present occasion they were trying to elevate their profession, and if they were going to elevate their profession they must do it by examination. He certainly believed that they would not have to submit all their Fellows at the present time to that means, but in the future every one would have to undergo an examination.

Mr. Rosenthal agreed with the system of examination, and said that it might never occur that a man from England or any other part of the world would be asked to submit to this examination.

The motion was carried unanimously.

Mr. Addison moved an amendment to Clause 4 (Section *d*), which was seconded by Mr. Black :—

"That each Institute in the federation be allowed to enjoy the fullest measure of self-government subject only to the fiat of the general body in all matters affecting the welfare of the profession generally." This was agreed to.

It was moved by Mr. Butler, seconded by Mr. Askew, and supported by Mr. Chambers, that the following be an addenda to Clause 3 :—

"That the Committee appointed to draw up the draft regulations for the formation of the R.I.A.A. be named the Federal Institute Committee, and that it be asked to arrange for an Inter-State Conference of Architects in Melbourne at the time of the opening of the first Federal Parliament and submit draft regulations to that meeting." This was also agreed to.

Mr. Tolhurst moved, and Mr. Addison seconded, and it was agreed :—

"That the President and Secretary, with power to add to their number, be requested to prepare and present an address to his Excellency the Governor-General expressing all the sentiments embodied in the draft address herewith."

At the conclusion of the proceedings a vote of thanks was passed to the Chairman.

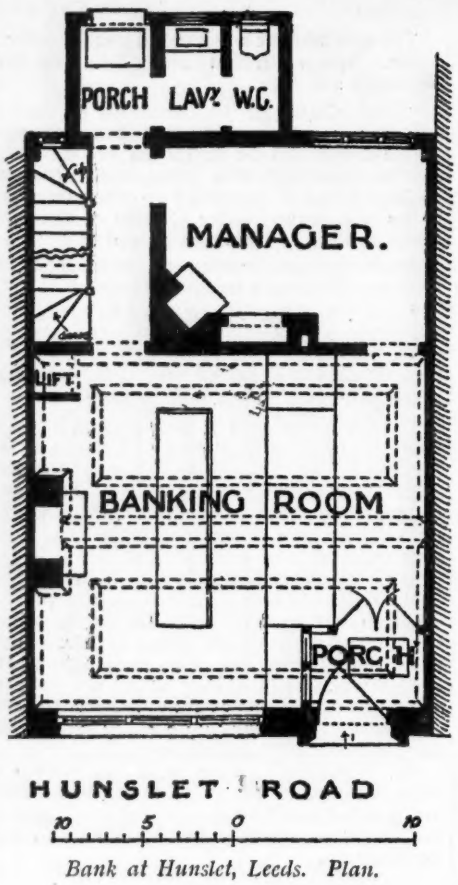
Mr. Cavanagh, on behalf of Western Australia, referred to the splendid way in which they had been treated, and congratulated the Institute of Architects in New South Wales for doing the greatest action that had been done yet in connexion with the profession of architecture in Australia. They had started to erect the profession of architecture on a sound basis, and hoped to establish it in Australia even on better ground than they had in the United Kingdom.

Mr. Barlow thanked them heartily for the warm manner in which they had recognised the work which the Institute of Architects of New South Wales had done.

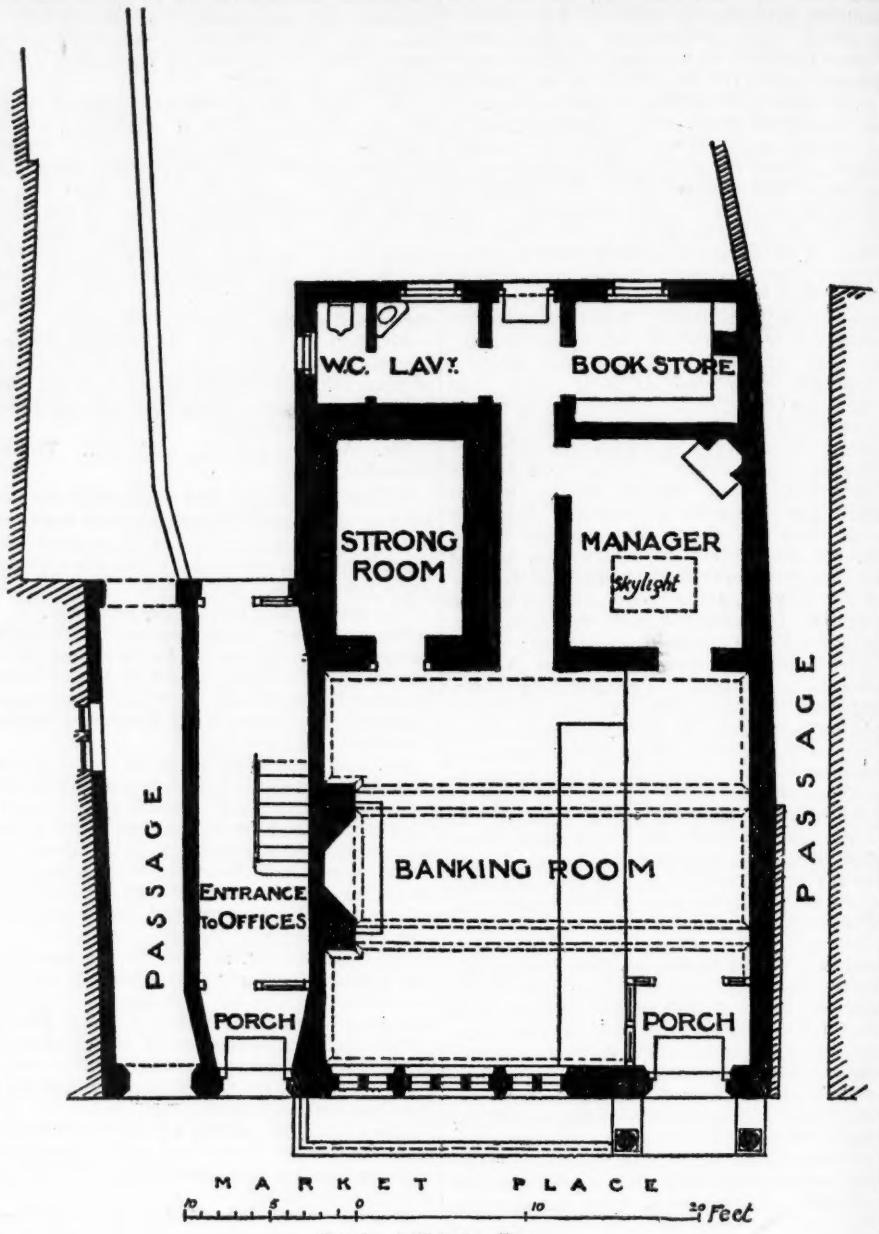
After votes of thanks to the honorary secretary (Mr. Sydney Jones), the proceedings closed.

On Thursday, January 3, the Institute of Architects of New South Wales gave a banquet in honour of the delegates to the Conference of Architects. The function was held at the Café Français, Mr. John Barlow being in the chair.

[We are indebted to the *Building, Engineering, and Mining Journal* of Sydney for the above report of the proceedings of the Conference.]



Bank at Hunslet, Leeds. Plan.



Bank at Thirsk. Plan.

Illustrations.

PUGIN STUDENTSHIP SKETCHES.

THIS sheet of sketches is reduced from one of the frames of drawings sent in to the Institute of Architects by Mr. H. W. Cotman, who gained the Pugin Studentship this year.

In regard to the sketches Mr. Cotman writes :—"This sheet of drawings indicates the variety of work submitted by me in this competition last year. I think nearly every pencil sketch I ever did went in, except when both sides of the paper were sketched on and one had to be sacrificed.

The doorway at Audenarde, of which the lower part is represented at South Kensington (and also at the Crystal Palace), is by Paul van Schelden, 1531. The upper part is rather coarse and out of keeping with the rest, which is exceedingly refined and playful in detail. The children's figures are beautifully proportioned. There are doors in each of the three sides opening into the council chamber.

The Italian chimney-piece is in the South Kensington Museum. The supporting men under the brackets are rather weak, being on tip-toes. The detail is curiously fanciful and in bold relief.

The little walnut table is one of the most interesting things in the woodwork corridor at the South Kensington Museum.

The west front of Wells Cathedral, the result of a week end trip, needs no comment."

Mr. Cotman is quite right as to the variety of his sketches. They formed, when all exhibited together, a collection very noteworthy in this respect.

PRESBYTERIAN CHURCH, NEW HAVEN, CONNECTICUT.

THE exterior of this church is designed in Italian Renaissance; it is finished in granite and limestone, with pressed buff brick ; all cornices and the lanterns of the towers will be of copper.

The basement, which is entered by two doorways in the tower, has a large vestry-room, reading-rooms, &c., connecting directly with the Sunday schoolroom on the rear of the lot.

The audience-room is without gallery, and great attention has been given to studying out the details of all parts of the interior treatment. This room has an inclined floor, and will seat 700 people.

The organ is also of special design, by the architect, Mr. F. R. Comstock, of New York City.

NEW TOWN HALL, HITCHIN.

WE give a view and plan of this pleasing little Town Hall, which has been carried out from the designs of Mr. G Lucas, of Hitchin (who obtained the commission as the result of a competition), with Mr. E. W. Mountford as consulting architect.

In the design the main object was to bring the building into line with such fine houses as the old Brewery House in Sun-street, or the smaller houses of like character in Bridge-street, as well as others about the town. In this way the work was kept as inexpensive as possible for a building of this size and importance, and it was hoped to bring out a note of harmony between the old and the new, suiting the building to its surroundings. The roof is carried by steel trusses, which do away with all thrust, and reduce the load to a dead weight.

The body of the hall provides for fifteen rows of twenty chairs each, and fifteen rows of benches each with twenty-two seats. The gallery has six rows of benches, each providing twenty-four seats, and two smaller ones, giving a total capacity of 780 seats, exclusive of stage and standing room.

The following is a list of the various firms engaged in the building, or from whom articles were obtained :—

General contractor, Mr. S. Redhouse ; mason's work, Mr. James Pepper, Hitchin and Shefford ; bricks, Messrs. Wheatley, Henlow ; steel roof trusses, Messrs. Drew-Bear, Perks, & Co., London ; roof tiles, Mr. A. F. Love, Sandy, Beds ; plasterer, Mr. Thomas Walker, Arlesey ; gas-fittings and general ironmongery, Mr. George Redhouse, Baldock ; heating apparatus, Messrs. C. Kite & Co., London ; stoves, rain-water heads, gas pendants and brackets, Messrs. T. Elsley, Limited, London ; ornamental plaster work, Mr. Gilbert Seale, London ; iron casements, Messrs. Crittal & Co., Braintree ; plumbing, lead glazing, and glass domes, Messrs. Jenkins, London ; lavatory fittings, Messrs. J. Tylor & Sons, Limited, London ; iron railings and chains for hall, Messrs. Gatward & Sons, Limited, Hitchin ; tiles for fireplaces, Messrs. M. Van Straaten & Co., London ; speaking tubes, Messrs. Sheath Bros., London ; door furniture and panic bolts, Messrs. Charles Smith & Sons, Limited, London and Birmingham ; glazing in yard, Messrs. Rendle & Co., Limited, London ; asphalt for flats, Val de Travers Company, London ; gallery seats and fittings in cloakroom, Mr. Joyner, Hitchin ; benches for hall, Mr. Taylor, Luton ; curtains throughout, Mr. F. W. Phillips, Hitchin ; incandescent gas bye pass supply, Mr. W. R. Phillips, Luton.

TWO COUNTRY BANKS.

THE Bank at Thirsk, for the Yorkshire Banking Company, stands on the east side of the old-fashioned market-place. It is built of Farndale (Kirby Moorside) stone, with a red-tiled roof. There are two suites of offices, which are let off on the first floor, and the caretaker's rooms over.

The contractors were :—Masons, Messrs. Wm. Nicholson & Sons ; plumbers, J. Lindley ; plasterer, T. Moore ; tilers, Messrs. Watson & Worsnop—all of Leeds ; and joiner, J. D. Ruecroft, of Thirsk. The Bank panelling and fittings, which are of walnut, were made by Christopher Hodgson, of Northallerton.

The bank at Hunslet is a small branch of the Yorkshire Banking Company in the busy manufacturing district of Leeds, and distant

about a mile from the head office. The front is constructed of Ancaster stone and purpose made brick. The banking premises occupy the whole of the ground floor, and the rooms above form the caretaker's house.

The contractors were: Brick and stone, Messrs. Wm. Thompson & Sons; joiner, Mr. Banks Mawson; plumber, Mr. George Thompson; and plasterer, Messrs. Mountain & Sons.

Messrs. Bedford & Kitson, of Leeds, were the architects for both the buildings.

COMPETITIONS.

HOLBECK'S NEW LIBRARY, LEEDS. — The competitive plans for a new branch library in Holbeck were recently exhibited at the Leeds Art Gallery. Most of the eleven competing architects have introduced a tower or turret into the design. In the first premiated design (Mr. W. Bakewell's) provision is made on the lower ground floor for a boys' reading room, with attendants' and store rooms. Above there is a general reading room with an area of 2,036 square feet, and adjoining it a lending library (790 square feet), a ladies' room (310 square feet), book store, and librarian's room. The book accommodation is for 15,000 volumes, with the possibility of extending that limit by means of a gallery to 27,000 volumes. The second premiated design was by Messrs. Buttery & Bird.

ARCHITECTURAL SOCIETIES.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.—The seventh ordinary meeting in connexion with the Leeds and Yorkshire Architectural Society was held in the Society's rooms, Park-street, Leeds, on the 18th inst. A lecture was to have been delivered by Mr. Francis Bond, but that gentleman being unable to be present, the business was purely formal, and comprised the election of the following officers for the coming session:—President, Mr. T. Butler Wilson; vice-presidents, Mr. C. B. Howdill and Mr. R. Wood; hon. treasurer, Mr. W. H. Thorp; hon. librarian, Mr. W. H. Beevers; hon. secretary, Mr. H. S. Chorley; Council, Messrs. F. W. Bedford, G. F. Bowman, A. E. Dixon, A. Hill, S. D. Kitson, and W. G. Smithson. Messrs. H. Ambler and H. E. Illingworth were elected hon. auditors. The prize drawings from the Royal Institute of British Architects were on view.

EDINBURGH ARCHITECTURAL ASSOCIATION.—On Saturday morning last the members of this Association journeyed to Kirkcaldy, where they visited the Victoria Cabinet Works, permission for which had been granted by Messrs. A. H. M'Intosh & Co. The party was under the leadership of Mr. George Ferguson, who explained the various processes and machinery. In the afternoon the Adam Smith and Beveridge Memorial Halls were visited by permission of Mr. W. L. Macindoe, Town Clerk, where Mr. James B. Dunn, the architect, acted as leader and described the different parts.

ARCHÆOLOGICAL SOCIETIES.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—At the meeting on the 20th inst.—Dr. W. de Gray Birch in the chair—Mr. Patrick, Hon. Secretary, read some notes of a discovery made at Lancaster on the 13th inst., communicated by Mr. T. Cann Hughes. The discovery consists of two urns, probably Saxon. The larger of the two was in a fragmentary condition, but the smaller one is intact. They are both of imperfectly dried clay of a reddish colour, and bear handmarkings. No ashes or coins were found. The urn and the fragments have been deposited in the museum in the Storey Institute, together with a tracing showing the exact spot where they were found. The locality, at the junction of Alfred and De Vitré-streets, is quite a new one, not at all in the centre of the town, but not far from a former site of a monastic establishment. The find is not otherwise important. With reference to the recent quincentenary of the poet Chaucer, the Rev. W. S. Lach-Szyrma read an interesting paper upon "Chaucer as illustrating English Mediæval Life." He said there were three great lights illustrating Mediæval English Life—Wycliffe, Chaucer, and Piers Ploughman. The former takes the clerical standpoint as a sort of English Savanarola, denouncing the vice, dissipation, and coarseness of the upper classes in Church and State in the days of Richard II., and suggesting the reforms which, in his opinion, were necessary. Chaucer takes the more congenial lay view of a satirist and poet. Piers Ploughman raises a jeremiad against mediæval defects and shortcomings, but in characteristic allegorical mode so fashionable in his time. There are many points in which the personality of Chaucer resembles that of Dickens—both are humorists, both have a hearty hatred of humbug and hypocrisy, both stoop to depict the poor and the ignorant, and both have vast powers of description. Chaucer, however, rises to a higher stage of elegance of description, and his imagination is of a far more gorgeous kind than that of Dickens. In Chaucer, we have both the light and shadow of mediæval England; we see tournaments and pageants, fine knights and ladies, in baronial halls and the rough middle-class burgher; the artisan, in his rude humble home, and the peasant emerging from barbarism. The people of England have not really changed much since Chaucer's day; many of us must often have met amongst our private friends a majority of the personages in the "Canterbury Tales." The author considered that a historic lesson was to be learnt from that fact, that although costumes, habits, and fashions might differ, the "John Bull" of the end of the fourteenth century was very like his descendant of the end of the nineteenth. He wished that that lesson could be more enforced in history lessons at our schools, for children are often taught to look on the Englishman of mediæval times as a being quite strange and foreign to the people they meet with at home or in the streets.—An interesting discussion followed the paper, in which Major Frere, Mr. Kershaw, Mr. Compton, Mr. Patrick, and the Chairman took part.

ENGINEERING SOCIETIES.

THE INSTITUTION OF JUNIOR ENGINEERS.—The fourth lecture of the course of six on "Works Management" was given by Mr. A. H. Barker at the Westminster Palace Hotel on Tuesday, 19th inst., Mr. E. King, the Vice-Chairman of the Institution, presiding. Proceeding with the question of the relation of the manager to the various subordinate officials, the lecturer considered in detail the methods of transmitting orders to the works, describing the books necessary in connexion therewith. Systems for dealing with correspondence were treated, the filing of letters, drawings, specifications, &c., being described. Complete and accurate indexing was very essential to success. The duties of the store-keeper were entered into to show their bearing on the proper keeping of the costs accounts. The great desirability of a fair trial being given to new material, devices, &c., which might be brought under the notice of the manager was pointed out. Accurately conducted experiments were, however, imperative, the results to be recorded and tabulated for future reference. The various methods of remunerating workmen for work done were then fully considered, the difficulties of the piecework system being dwelt upon. The premium method needed the exercise of much organising talent on the part of the management, or it would lead to great confusion.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.—The tenth general meeting (business) of the session of this Institute will be held on Monday next, to consider amendments to the Institute form of conditions of contract. The Council, having finally withdrawn from further negotiation with the Institute of Builders, no longer bring forward the amended clauses with a view to securing a uniform form of contract agreed upon by both Institutes; but they submit them to the consideration of the general body, with a view to such amendments being incorporated in the Royal Institute Form of Contract as may be found desirable. As the Council do not *propose* these amended clauses, they have been printed *in extenso*, including the suggested arbitration clause, for the information of members. We printed the amended clauses in our issue for December 8 last.

GOOD FRIDAY WEEK.—In consequence of the Easter Holidays, next week we go to press a day earlier than usual. All communications for the Editor must reach him by *first post on Wednesday morning*, except lists of tenders, which will be received up to 10 a.m. of the same day.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of this Council was held on Tuesday in the County Hall, Spring-gardens, Mr. A. M. Torrance, Chairman, presiding.

Loans.—On the recommendation of the Finance Committee it was agreed to lend the Hackney Borough Council 30,000*l.* for electric light installation; the Hammersmith Borough Council 13,530*l.* for electric light installation; the Lewisham Borough Council 1,000*l.* for asphalt paving works; the Stepney Borough Council 5,163*l.* for street lighting; the Lewisham Borough Council 6,000*l.* for library buildings; the Islington Guardians 4,700*l.* for works at the workhouse at St. John's-road; and the Stepney Guardians 15,000*l.* for the erection of schools.

Office Accommodation.—On the recommendation of the Establishment Committee, it was agreed:—

"That the estimate submitted by the Finance Committee be approved; and that an expenditure of a sum not exceeding 8,000*l.* be authorised for carrying out the structural alterations for the purposes of connecting the premises Nos. 25, 26, and 27, Cockspur-street, with the main building, and of providing additional office accommodation. That Standing Order No. 184, relating to jobbing works, be suspended in order to enable the following recommendation to be considered: That the work be carried out by the Works Department at prime cost, plus 15 per cent. for plant, establishment, and general charges."

Housing.—The Housing of the Working Classes Committee brought up the following paragraph:—

"On February 12, 1901, the Council authorised us to advertise for tenders to be delivered to the Council on 26th instant for the erection of the dwellings on the Duke's-court site, Drury-lane, for the accommodation of 610 persons of the working classes to be displaced by the carrying out of the Clare Market, Strand, scheme. We now submit the working drawings, bills of quantities, specification, and architect's estimate amounting to 26,285*l.* in respect of the three blocks of dwellings, which will be known as Sheridan, Beaumont, and Fletcher buildings. The architect's estimate is made up as follows:—

Buildings	£24,965
Architect's expenses, including articles suppled by the Council and provision for contingencies	1,000
Quantity surveyor's fees	290
Trial holes (already voted)	30
	26,285

The dwellings will consist of three blocks of five-story dwellings, which will provide accommodation for 610 persons in 130 tenements; of these ten will be of one room, seventy-five of two rooms, thirty-five of three rooms, and ten of four rooms. One hundred and twenty tenements will be entirely self-contained, and the remaining ten will have private water-closets, but sculleries common to two tenements. We have had before us estimates of the probable receipts and outgoings in respect of the dwellings, and we are satisfied that the erection of the buildings will not involve any charge on the county rate. We propose to hold a meeting to consider the tenders which will be referred to us by the Council for consideration on the 26th inst. This will enable us to submit a tender for acceptance at the same time that the Finance Committee report on the estimate of the cost of the erection of the buildings. We recommend that the working drawings, specification, bills of quantities in respect of Sheridan, Beaumont, and Fletcher-buildings, and the estimate of 26,285*l.* submitted by the Finance Committee in connexion therewith be approved."

Mr. A. L. Cohen pointed out that the charge made by the Guinness Trust was 2s. 1½ per room, while the Four Per Cent. Industrial Dwellings Company charged from 2s. 6¾d. to 3s. 0¾d., but in the latter case a bathroom was provided. He contended that, until the Council gave their architect instructions to prepare plans for houses which would allow of a rent of 2s. a room being charged, the difficulty would never be solved. He moved that the Report be referred back, so that fresh plans might be prepared which would allow of the classes being housed whom it was their duty to house.

Mr. Campbell seconded the amendment.

Dr. Collins said the rents to be charged by the Council were from 3s. to 4s. for one room, 6s. to 6s. 6d. for two rooms, 8s. to 8s. 6d. for three rooms, and 10s. to 10s. 6d. for four rooms.

Mr. Bruce said that the two sites cost 80,000*l.*, and had to be written down by the Finance Committee for housing purposes to 9,600*l.*

Mr. Beachcroft said the question was not what they charged per room, but the fact that

the Council very rightly and properly prevented overcrowding in the dwellings, and compelled people who would otherwise take two rooms to take three rooms instead. It seemed to be foolish to write down the value of the site and then to make it appear that no charge would fall on the rates, by charging 3s. a room to people who could only afford to pay 2s.

Mr. Hunter declared that when the Government put the Council upon the same footing as the companies they could build quite as cheaply. They had asked an outside architect to design buildings for them, but while he provided for 500 persons the Home Secretary would only allow for 300. Yet the architect told the Council that those plans were superior to any of those prepared for the private companies.

Dr. Collins said the Committee had instructed their architect to prepare plans of the simplest design, and it was the way in which the plans had been received by the Home Office which had caused the increased cost.

The amendment was defeated, and the report afterwards adopted.

It was reported that Ruskin Buildings, Millbank estate, are now practically completed. Ruskin Buildings is the more northerly of the two blocks of buildings which face the central open space and which are similar buildings with plan reversed. The block is divided into four houses containing eighty-five tenements and 215 rooms, giving accommodation for 430 persons.

The Committee brought up a report containing the following recommendation :—"That the tender of Messrs. Martin, Wells, & Co., amounting to 23,600*l.*, for the erection of Sheridan, Beaumont, and Fletcher Buildings, be accepted."

[This was agreed to. The tender is 1,365*l.* below the architect's estimate.]

The same Committee reported as follows :—

In pursuance of the resolution of the Council of October 23, 1900, as to applications involving displacements of the working classes, we reported on January 29, 1901, that our attention had been drawn by the Building Act Committee to an application made under the Act by Messrs. W. Bradford & Sons on behalf of Messrs. Mann, Crossman, & Paulin, for sanction to a scheme for the widening of Brady-street, Bolt-street, Foster-street, and Thomas-passage, Whitechapel-road, in connexion with the extension of their brewery. Application has now been made for sanction to an amendment of the scheme, by which eight more houses, occupied by persons of the working classes, will be cleared away; and upon the basis of two persons per room, thirty-eight more persons will be displaced, and it does not appear that any provision is made for rehousing them. In accordance with the resolution of the Council of January 29, 1901, efforts have been made, but without success, to induce Messrs. Mann, Crossman, & Paulin to make some provision for rehousing the persons displaced. Our attention has also been drawn by the Building Act Committee to an application from Mr. Max Clarke on behalf of Spratt's Patent, Limited, for consent to the erection of a warehouse on the west side of Fawe-street, Bromley-by-Bow, Poplar. In this case eight houses, recently occupied by persons of the working class, are being demolished. Upon the basis of two persons per room, sixty-four persons will be expropriated, and no provision appears to be made for the rehousing of any of them.

The following table shows the displacements, of which we have received particulars, to date :—

Date when reported to the Council.	Houses removed.	Houses to be erected.	Number of persons displaced.	Number of persons proposed to be rehoused.	Number of persons unprovided for.
Nov. 13, 1900 ..	216	141	1,728	1,692	36
Jan. 22, 1901	39	—	312	—	312
Jan. 29, 1901	108	—	986	—	986
March 26, 1901 {	8	—	38	—	38
	8	—	64	—	64
				Total...	1,436

The Building Act.—A discussion took place on the recommendation of the Building Act Committee to consent to plans of an extension of Messrs. Spratt's premises at Poplar [see above paragraph].

Mr. Yates moved that consent be not given unless a guarantee was given that the sixty-four persons dishoused would be rehoused.

Mr. Strauss seconded the amendment.

Mr. Goddard Clark (Chairman of the Building Act Committee) said in deference to the Council he would take the matter back, but he did not think anything could be done, because the applicants might go to a higher tribunal, and the Council might get a slap in the face.

Sir Arthur Arnold remarked that it was a most foolish policy to try and go behind the law in that way. It might be that they disagreed with the law, but their proper course should be to try to get it altered.

A similar amendment with regard to another recommendation of the Building Act Committee respecting the extension of the premises of Messrs. Mann, Crossman, & Paulin was defeated.

Widening of Narrow-street, Limehouse.—On the recommendation of the Improvements Committee, it was agreed that the estimate of 9,326*l.*, submitted by the Finance Committee, be approved, and that a contribution be made by the Council on the usual conditions of one-half of the net cost of the widening of Narrow-street, Limehouse, between the Barley Mow public-house and Three Colt-street, and of Three Colt-street at No. 107, proposed to be undertaken by the Council of the Metropolitan Borough of Stepney.

Sewer Works.—On the recommendation of the Main Drainage Committee, it was agreed that the estimate submitted by the Finance Committee be approved; that the tender of Mr. Clift Ford, amounting to 12,911*l.* 5s. 8d., for the extension of the middle-level sewer to Mitre-bridge and the construction of a new sewer in Scrubbs-lane, as well as a length of sewer in connexion with the overflow from the Counter's Creek sewer, be accepted.

Boys' Home, Lowestoft.—On the recommendation of the Industrial and Reformatory Schools Committee, it was agreed that the supplemental estimate submitted by the Finance Committee be approved, and that the additional expenditure of 1,100*l.* in respect of the erection of the Shipping Agency building at Lowestoft, and quantity surveyor's fees, clerk of works' wages, &c., be sanctioned. That, subject to the result of the usual inquiries being satisfactory, the tender of Mr. J. Ashby, Mill-road, Lowestoft, of 3,958*l.* 10s. 8d. for the erection of the building, be accepted.

New Entrance Gates, Battersea Park.—The Parks and Open Spaces Committee recommended, and it was agreed, that the estimate of 1,990*l.* submitted by the Finance Committee be approved, and that an expenditure of that amount be sanctioned for the construction of four sets of wrought-iron entrance gates, with stone piers, at Battersea Park, the work to be carried out by the Works Department without the intervention of a contractor.

Appointment of an Architect as Arbitrator.—The Theatres and Music Halls Committee reported as follows, the recommendation being agreed to :—

"On February 12 last we reported to the Council the fact that a notice of appeal had been received from Messrs. Fladgates & Co., on behalf of the owners, against the sealed notice from the Council requiring certain structural alterations to be made to the Vaudeville Theatre, Strand. The Council then instructed the Clerk to apply to his Majesty's First Commissioner of Works for the appointment of an arbitrator to hear and determine the appeal. A letter has now been received from his Majesty's Office of Works stating that Mr. W. Emerson, P.R.I.B.A., has been appointed to hear and determine the appeal. We recommend that the solicitor be authorised to take all necessary steps to support the Council's requirements before the arbitrator."

Theatres, &c.—On the recommendations of the same Committee, sanction was given to the following applications :—

Arrangements at the London Music Hall (Mr. F. Matcham).

The means of communication between the Lyric Theatre, Shaftesbury-avenue, and the proposed new offices (Mr. J. G. Buckle).

The reconstruction of the dressing-room block at the Oxford Music Hall, Oxford-street (Messrs. Wylson & Long).

Proposed new doorway at the St. James's Theatre, King-street, St. James's (Mr. A. B. Jackson).

Gates proposed to be erected at the St. Olave and St. John Institute, Tooley-street (Mr. H. Stock).

Tramways and Tubes.—Dr. Cooper moved :—

"That it be an instruction to the Highways Committee to consider (a) the routes along which extensions of the London tramways system ought to take, having regard to the needs of the inhabitants in every part of the county; (b) the establishment of a tramway centre or centres to which extensions shall converge; (c) the railway extensions required to perfect the London overhead railway system; (d) the extensions required to perfect the London tube or underground railway system; and to report to the Council their conclusions at the earliest possible date."

Mr. Sidney Low seconded the motion, and, with the consent of the mover, added the following words :—

"And that it be a further instruction to the Highways Committee to secure that the views of the London County Council on the question of tube or underground railway schemes now before Parliament shall be properly represented before the Joint Committee of both Houses formed to consider the subject."

The motion, as amended, was agreed to.

The Council shortly afterwards adjourned.

METROPOLITAN ASYLUMS BOARD.

THE fortnightly meeting of this Board was held on Saturday, Sir E. Galsworthy presiding.

A letter was read from the Local Government Board stating that, with considerable hesitation, they were issuing an order authorising the expenditure of a sum not exceeding 125,694*l.* on the erection of the proposed White Oak School, and sanctioning 118,694*l.* of this amount to be defrayed by a loan repayable in thirty years and the remaining 7,000*l.* by a loan repayable in fifteen years.

The Works Committee submitted a statement showing that up to the present 52,701*l.* 14s. 3d. had been spent in erecting the new head offices on the Victoria Embankment. The original estimate was 49,543*l.* The amount already spent on the superstructure was 44,900*l.*, exclusive of the ventilating tower. It was now necessary to obtain sanction to raise the extra expenditure beyond the 43,400 already authorised, and a recommendation that application be made to the Local Government Board to raise a further loan of 11,000*l.* was approved.

With regard to the proposed additions and alterations to the laundry at Leavendon Asylum, the Works Committee reported that Messrs. Newman & Newman, the architects, had been directed to prepare an amended plan with a view to the better separation of the sexes and more efficient administration and supervision of the laundry generally.

The Works Committee also submitted a report respecting the proposed Southern Hospital. In November last a revised estimate, whereby the cost was reduced from 319,400*l.* to 284,300*l.*, and the cost per head from 395*l.* to 355*l.*, was submitted to the Local Government Board. Beyond a bare acknowledgment of the letter, the Managers had heard nothing from the Board, and Messrs. Treadwell & Martin, the architects, had written complaining of the delay, and pointing out that, unless instructions were received by them forthwith, there would be very little chance of the work being commenced at all during the present year. The Managers adopted the suggestion of the Committee that the Local Government Board should be pressed to give their final decision at an early date.

On the recommendation of the Works Committee the tender of Messrs. McCormick & Sons, in 84,567*l.* for the erection of High Wood School, Brentwood, was accepted.

APPLICATIONS UNDER THE 1894 LONDON BUILDING ACT.

AT the meeting of the London County Council on Tuesday the following applications were considered. Those applications to which consent has been given are granted on certain conditions. Names of applicants are given in brackets. Buildings are new erections unless otherwise stated :—

Lines of Frontage and Projections.

Woolwich.—Re-building of the houses, with shops on the ground floor, on the north side of Wellington-street, Woolwich, between Mulgrave-place and Brewer-street (Mr. H. P. Monckton for Captain R. A. Ogilby).—Consent.

Bow and Bromley.—A block of stable buildings on the west side of Leven-road, Bromley (Mr. R. T. Kingham for the London General Omnibus Company, Limited).—Consent.

Greenwich.†—A hotel, with stables, on the south-east side of Beaconsfield-road, Westcombe Park, Greenwich, at the corner of Mycenæ-road (Mr. M. L. Saunders for Mr. F. Bell).—Consent.

Hackney South.—One-story shops on part of the forecourts of Nos. 206 to 226 (even numbers only,

inclusive), Morning-lane, Hackney (Mr. W. Hall for Mr. T. W. Webber).—Consent.

Hammersmith.—Extension of the period within which the erection of buildings with oriel windows upon a site on the west side of Queen-street and the south side of Sussex-place, Hammersmith, was required to be commenced, be granted (Mr. H. G. Brace for Mr. W. Moss).—Consent.

Hampstead.—Dwelling-house on the north side of Arkwright-road, Hampstead, to abut upon Frognal (Mr. A. C. H. Watkin for Mr. W. Davis).—Consent.

Hampstead.—Residential flats on the west side of West End-lane, Hampstead, between Douglas Mansions and Carlton Mansions (Messrs. Palgrave & Co. for Messrs. Herbert Reeves & Co.).—Consent.

Islington, East.—Retention of a one-story stable building at the rear of No. 95, Hornsey-road, Islington, abutting on Shelburne-road (Mr. C. G. Champion for Messrs. Watson & Clarke)—Consent.

Kensington, South.—An addition to No. 28, Argyle-road, Kensington, to abut upon Essex-villas (Messrs. Hussey & Walcott for Mr. J. E. Weld).—Consent.

Lewisham.—Two houses on the west side of Newlands Park, Sydenham (Mr. E. Bates for Welford's Surrey Dairies, Limited).—Consent.

Marylebone, East. — Movable wood and glass screens at the sides of a stone portico at the entrance to No. 5, Cavendish-square, St. Marylebone (Messrs. Smee & Cobay for Mr. F. C. Hunter).—Consent.

St. George, Hanover-square.—Wood and glass inclosures to an open portico at the entrance to No. 46, Grosvenor-street, St. George, Hanover-square (Messrs. A. Blomfield & Sons for Mr. E. Speyer).—Consent.

St. George, Hanover-square.—An open portico in front of a building, Nos. 19 and 19A, Hanover-square, St. George, Hanover-square (Mr. J. Hudson for Messrs. Ashdown, Limited).—Consent.

Wandsworth.†—Retention of a gas-meter house in the playground of the Sunny Hill-road school, Streatham, abutting on Valley-road (Mr. T. J. Bailey for the School Board for London)—Consent.

Wandsworth.—An extension of the period within which the erection of one-story shops upon part of the forecourts of Nos. 151 to 169 (odd numbers only, inclusive), Balham High-road, Wandsworth, was required to be completed, be granted (Messrs. Gibbon & Moore).—Consent.

Kensington, South.—Three-story bay window in front of No. 4, Douro-place, Kensington (Mr. A. Adderley).—Consent.

Deptford.—Two lamps to overhang the public way at the White Hart public-house, Grove-street, Deptford, at the corner of New-road (Messrs. Humphreys-Davies & Co. for Messrs. Style & Winch, Limited).—Refused.

City of London †—An iron and glass shelter at the entrance to De Keyser's Royal Hotel, Victoria Embankment City (Mr. H. C. Morris for De Keyser's Royal Hotel, Limited).—Refused.

Chelsea.—An iron sign at the first floor level in front of No. 13, King's-road, Chelsea, to project over the public way (Mr. H. D. Bryan for Messrs. Scott, Cuthbertson, & Co. and Messrs. Coterell Brothers).—Refused.

Dulwich.—The erection, on three sites on the south side of East Dulwich-road, Camberwell, one of the sites abutting also upon Oakhurst-grove, of buildings (Mr. W. E. Deane for Mr. A. J. Walke).—Refused.

Hampstead.—A greenhouse at the nursery on the eastern side of Haverstock-hill, Hampstead (Mr. J. D. Hunter for Mr. J. Russell).—Refused.

Kensington, North.—One-story shops and an entrance-way on the forecourt of Norland Castle, Queen's-road, Notting Hill, at the corner of Norland-road North (Mr. A. Gordon for the Salvation Army).—Refused.

Width of Way.

Bow and Bromley.—A building, to be used as a slate factory, on the north-east side of Bow Common-lane, Bromley, nearly opposite Thomas-street, with the forecourt boundary fence at less than the prescribed distance from the centre of Bow Common-lane and without the site of the slate factory being covered with a layer of good concrete at least 6 in. thick (Mr. R. H. Kerr for Mr. J. Burroughes).—Consent.

Camberwell, North.—Two dormitories and a boiler-house of a temporary character at the rear of the guardians' offices, Peckham-road, Camberwell, with the boundary fence at less than the prescribed distance from the centre of Havil-street (Mr. E. T. Hall for the Guardians of the parish of St. Giles, Camberwell).—Consent.

Clapham.—A one-story building, to be used as a children's reading-room, at the rear of the public library, Lavender-hill, Battersea, at less than the prescribed distance from the centre of Green-lane (Mr. W. M. Wilkins for the Council of the Metropolitan Borough of Battersea).—Consent.

Hackney, South.—A one-story addition to a building at the rear of No. 10, Tower-street, Londonfields, Hackney, at less than the prescribed distance from the centre of Martello-terrace (Mr. A. Rider for the Tower Fur Company).—Consent.

Hoxton.—Retention of a warehouse building on the north side of Bowling-green-walk, Pitfield-street, Hoxton, at less than the prescribed distance from the centre of the street (Mr. H. W. Dobb for Dr. W. B. Benjafield)—Consent.

Poplar.—Buildings, to be used as offices and warehouses, at Glasshouse-wharf, Orchard-place, Blackwall, at less than the prescribed distance from the centre of the street (Messrs. J. and S. F. Clarkson for Messrs. Fowler, Limited).—Consent.

Wandsworth.†—A two-story warehouse at Baltic-wharf, Brewhouse-lane, Putney, at less than the prescribed distance from the centre of the street (Messrs. W. Douglas & Sons).—Refused.

Space at Rear.

Holborn.—A block of residential flats on the site of Nos. 94 to 97 (inclusive), Great Russell-street, and No. 21, Bloomsbury-street, Holborn, with an irregular open space at the rear and with portions of the building to extend above the diagonal line directed by Section 41 of the Act to be drawn (Mr. A. Burr for Mr. H. J Pearce).—Refused.

St. George-in-the-East.—A modification of the provisions of Section 41 with regard to open spaces about buildings, so far as relates to the proposed erection of two-story additions at the rear of Nos. 42 to 54 (even numbers only inclusive), and Nos. 49 and 51, Buross-street, St. George-in-the-East, by reason of which the buildings will have irregular open spaces at the rear (Mr. E. Crosse for Mr. J. Rubenstein).—Refused.

Wandsworth.—A modification of the provisions of Section 41 with regard to open spaces about buildings, so far as relates to the proposed erection of a two-story stable and a cart-shed on a piece of land on the south side of Atheldene-road, Wandsworth, at the rear of houses on the east side of Garrett-lane, without an open space at the rear (Mr. J. Bird).—Refused.

Line of Frontage and Space at Rear.

St. Pancras, East.—That the application of Mr. O. Fleming for the Fire Brigade Committee of the Council, for an extension of the periods within which the erection, on the site of No. 69, Euston-square and Nos. 172 and 174, Euston-road, St. Pancras, of a fire brigade station, with a projecting five-story bay-window and a hose hoist, and with an irregular space at the rear, was required to be commenced and completed, be granted.—Agreed.

Line of Frontage and Width of Way.

Norwood.—Three blocks of residential flats on a site on the south side of Thurlow Park-road, Tulse-hill, at the corner of Avenue Park-road (Mr. J. W. Abraham for Mr. Perrin).—Refused.

Lines of Frontage and Construction.

Poplar.—An overhead transporter, to be constructed of steel and wood, across East Ferry-road, Poplar, near its junction with Glengall-road, with an iron roof over the portion of the transporter spanning East Ferry-road (Millwall Dock Company).—Consent.

Hackney, North.—Two open play-sheds at the proposed schools, Northwold-road, Hackney, with one of such sheds in advance of the general line of buildings in Northwold-road (Mr. T. J. Bailey for the School Board for London).—Refused.

Width of Way and Construction of Buildings.

St. George-in-the-East.—A play-shed in the play, ground of the Berner-street School, St. George-in-the-East, at less than the prescribed distance from the respective centres of Batty-street and Fairclough-street (Mr. T. J. Bailey for the School Board for London).—Consent.

Limehouse.—Retention of an open wood and iron shed erected on the south side of St. Paul's-road Limehouse, near the railway viaduct crossing that road, and the erection of an addition to such shed (Mr. A. H. Barker).—Refused.

Width of Way, Line of Frontage, and Space at Rear.

Woolwich.—The re-building of Nos. 2, 3, and 4, Frances-street, Hill-street, Woolwich (Mr. H. P. Monckton for Captain R. A. Ogilby, Mr. J. D. Buckley and Mr. T. Gwillim).—Consent.

Formation of Streets.

Whitechapel and Bethnal Green, South-West.—That an order be issued to Messrs. W. Bradford and Sons sanctioning the widening of Brady-street, Bath-street and Foster-street, Bethnal Green, and the widening and adaptation for carriage traffic of Thomas-passage (for Messrs. Mann, Crossman and Paulin).—Agreed.

Lewisham.—That an order be issued to Mr. J. W. Webb refusing to sanction the formation or laying out of new streets for carriage traffic on part of the Crofton Park estate, Crofton Park-road, Brockley.—Agreed.

Wandsworth.—That an order be issued to Messrs. Marler & Co. refusing to sanction the formation or laying out of a street for carriage traffic out of the north-west side of Mitcham-lane, Streatham (for Colonel R. J. Aspinall).—Agreed.

Separation of Buildings.

City of London.—The formation of two openings at the first floor level in the party-wall between Nos. 97 and 99, Gresham-street, City (Mr. C. E. Sayer for Messrs. Coates, Son & Co.).—Refused.

The recommendations marked † are contrary to the view of the Local Authorities.

BOOKS RECEIVED.

BUILDING SPECIFICATIONS. By John Leaning, F.S.I. (B. T. Batsford.)

THE PRINCIPLES OF PLANNING. By Percy L. Marks. (B. T. Batsford.)

The Student's Column.

SANITARY FITTINGS AND PLUMBING.

12.—BATHS (*continued*).

INLETS.—At one time it was a common practice to admit the water to a bath through the waste-outlet. This was effected by connecting the hot and cold supply-pipes to the waste-pipe between the waste-outlet and the waste-valve. This arrangement is now generally condemned for two good reasons. In the first place, the waste-pipe is often seriously fouled with the last soapy drainings from the bath, and when the water is again turned on it carries back into the bath some of this objectionable matter. The second reason is that, if the waste-valve is left open (as it usually is), one or both of the taps may be left running and the water will escape unnoticed through the waste-pipe. It is for the latter reason that water companies object to the arrangement.

The most obvious method of admitting water is by means of two taps, one for hot water and the other for cold. These ought to be at or near the foot of the bath, so as to be out of the bather's way, and ought not to project far over the edge of the bath. Hot water admitted in this way gives off a good deal of steam, and to reduce this to some extent the taps are sometimes connected with a mixing-box (fig. 1), from which a single stream of tepid water issues into the bath. The same end is gained by admitting the water into the bath at a low level, as shown in fig. 3 (p. 269). Fig. 6 on the same page shows a single-stream inlet connected at about half the depth of a porcelain bath. The objection to low-level inlets is that they may be fouled by dirty bath-water, and the regulations of many sanitary authorities now require that the inlets must be placed so that the orifices are above the highest water-level of the bath—that is to say, above the overflow grating or above the top of the standing overflow.

For asylums, hospitals, prisons, and some other institutions, it is not desirable that the fittings should be under the control of the bathers, and in such cases the taps and waste may be so designed that they can only be actuated by a special key, which is in the possession of the attendant. Such an arrangement is shown in fig. 2, where A is the cold-water supply, B the hot-water supply, C the keyhole and key by which the water is turned on, D the waste spindle, with keyhole at E, F the overflow, and G the cast-iron casing in which the fittings are enclosed. The hot and cold supplies are in this case controlled by a single key, the cold water being started by the first movement of the key, and the hot water being turned on by a further movement. This prevents the scalding of the bather, but if the "hot" water is for any reason at an abnormally low temperature it may prevent a sufficiently warm bath being obtained. In one illustration the waste discharges into a floor-channel, a method often adopted where two or more fittings (baths and lavatories) are fixed in close proximity; a trap can, however, be connected with the waste-pipe if desired. Another method of withdrawing the fittings from the control of the bather is to carry the spindles or levers through the wall or partition at the foot of the bath so that they can be actuated by the attendant in the passage outside.

Special Baths.—The ordinary plunge bath is often fitted with a hood containing pipes and other fittings by which the water can be admitted in a shower, spray, wave, and other ways. The "shower" is admitted through a rose placed over the head of the bather at the outlet end of the bath. The "douche" is a stream of water admitted through a nozzle in the centre of the shower rose. The "wave" is a stream of water admitted through a wide but shallow orifice at the back of the hood so as to play upon the hips of the bather. The "spray" consists of a number of very fine jets of water admitted through perforations in tiers of horizontal pipes or in a series of vertical pipes placed at intervals around the hood. Sometimes a "sitz" or ascending spray fitting

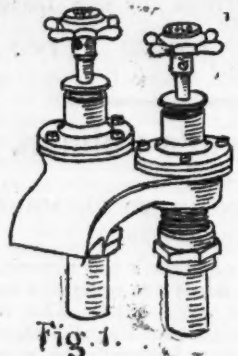


Fig. 1.

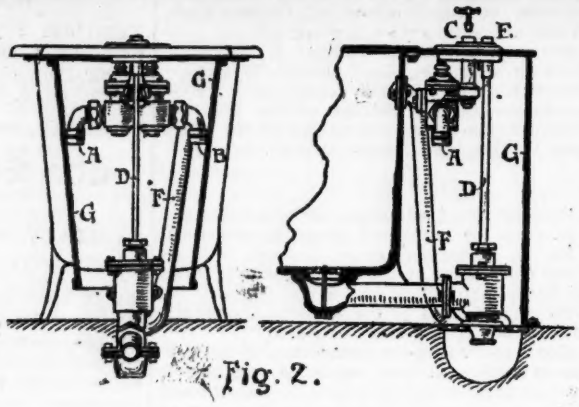


Fig. 2.

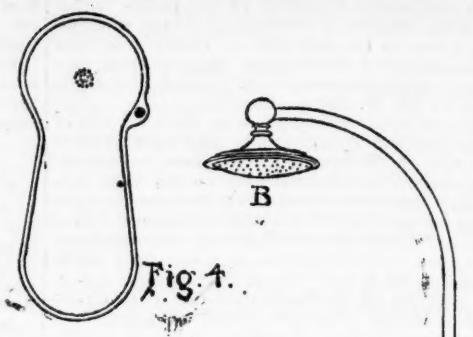


Fig. 4.

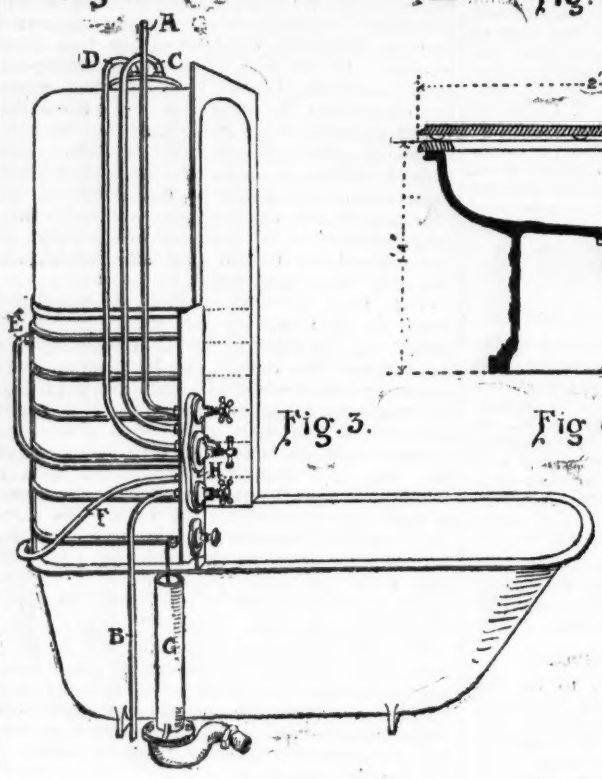


Fig. 3.

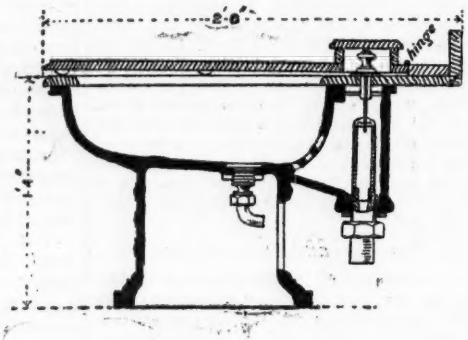


Fig 6

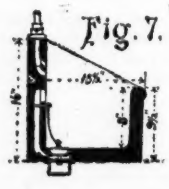


Fig. 7.

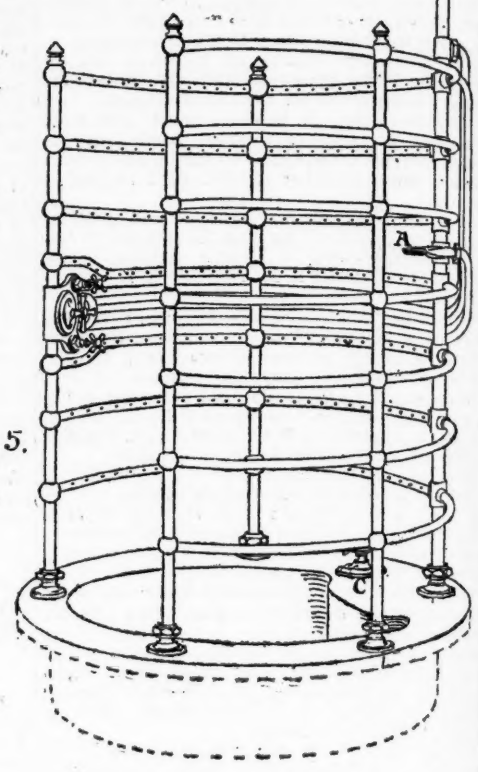


Fig. 5.

Illustrations to Student's Column.

is placed in the bottom of a plunge bath, but as this inlet is below the water-level of the bath it cannot be recommended, for the reasons already given. A sitz bath ought to be a separate fitting.

The spray, douche, and shower are the special forms of inlet most commonly adopted, and a bath fitted with these is shown in fig. 3, A being the hot-water supply-pipe, B the cold-water supply, C the shower supply, D the douche supply, E the spray supply (connected with six horizontal spray-pipes), F the plunge supply, G the overflow and waste, and H the hot and cold mixing-box, with taps and dial-plate. This bath is intended to be cased with wood, but independent baths containing these fittings are also made, and are certainly preferable on sanitary grounds. A door is arranged in the outer metal casing for access to the pipes immediately behind the mixing-box. In cheaper baths a single spray-pipe is fitted around the top of the hood. The plunge bath may be of cast iron, enamelled fireclay, or other material; the hood is generally of plate zinc or copper, finished to match the bath.

The bath shown in the illustration has parallel sides, and the hood is on the same lines. This shape does not entirely prevent splashing over the edges of the plunge outside the hood, and the keyhole-shaped bath (fig. 4) is a decided improvement in this respect.

Sometimes the metal hood is omitted, and the skeleton of pipes left exposed. A waterproof curtain can be suspended on rings around the pipes to prevent splashing. The pipes are generally of copper, polished, tinned, or nickel-plated.

For industrial schools, and other institutions where a large number of persons must bathe in a short time, and where water must be economised, the plunge-bath is often superseded by a skeleton of spray pipes with shower above. The water for a range of baths of this kind may be controlled by the attendant at a single mixing box, to which a thermometer may be attached so that the temperature can be properly regulated. The floor may be dished or widely channelled, or may have an enamelled fireclay bath-tub sunk in it, as shown in fig. 5. This bath is somewhat elaborate, and has seven heights of $\frac{5}{8}$-in. copper spray pipes, $1\frac{1}{2}$-in. vertical supply pipe at the back, four $1\frac{1}{4}$-in. vertical supporting tubes, wave fitting at A, shower at B, and waste-valve at C; the valves are under the control of the bather.

The control of the water supply to combined baths of the kind illustrated in fig. 2 was originally effected by two taps (hot and cold) for each kind of inlet, that is to say, two for the plunge, two for the shower, and so on. The next step in advance was made by having a mixing-box to which the hot and cold supplies were connected, and from which pipes, controlled by valves or taps, led to the different fittings. In a bath containing plunge, spray, shower, and douche, eight taps would be required under the former arrangement, and six under the latter. The most modern arrangement requires only three taps for any number of fittings. By turning the hot and cold taps, the water is run into a small mixing chamber, to which the pipes supplying the different parts of the bath are attached. On the face of the mixing-chamber a dial is formed, containing a central spindle and knob to which an indicator or pointer is fixed. The dial is marked with the words "plunge," "shower," "douche," &c., and the supply of water is admitted to either of these fittings by simply turning the pointer to the word on the dial. Only one inlet can be in operation at one time.

Sitz baths are shaped somewhat like arm-chairs, the essential feature being a rose in the sunk bottom, through which a spray of hot and cold water can ascend. A rose is often placed also in the back of the bath to give a horizontal spray, and above this a slit is sometimes provided for a "wave" inlet. The bath must be fitted with waste and overflow gratings. The supply for the ascending spray ought not on any account to pass through the waste-pipe on its way to the bath. Sitz baths are made in enamelled fireclay, cast-iron, plate zinc, or copper, and may be independent or enclosed in wood. The fittings are in all essentials similar to those of good plunge and spray baths.

Bidets are small baths on which a person can sit. The principal feature is an ascending spray near the centre of the basin. Fig. 6 shows a pedestal bidet in white ware or vitro-porcelain, fitted with outlet grating and standing waste and overflow similar in design to those used in many lavatory basins. The porcelain pedestal is better than a wood enclosure.

Foot-baths are useful in schools and other places, the best material being glazed fireclay. Enamelled iron is also used. Fig. 7 is a section of a fireclay foot-bath, with supply nozzle, overflow, and waste-plug. The overflow is not accessible for cleansing, and this is certainly a disadvantage. The length of the bath is 19 in.; the other dimensions are figured on the drawing. This bath is intended to be laid on the floor. In the case of a range of baths, the wastes may discharge into a single pipe trapped beyond the furthest fitting, and carried through the wall at the other end for ventilation. Access to the pipe will be facilitated if it is placed below the ceiling of the room under the bath-room. Sometimes the baths are raised on feet, so that the total height is about 16 in. or 17 in.; a floor-channel can then be arranged to receive the waste water.

Other special baths are used in hydropathic establishments, but these need not be discussed.

Bath-heaters.—In houses where there is no hot-water supply or where this supply is insufficient, some method of heating bath water is necessary. Usually an appliance known as a "geyser" is adopted for the purpose, gas being the heating agent. The shell is generally of copper and the internal parts of copper or zinc. Much has been written about the dangers of geysers of this kind, and many

deaths have undoubtedly been caused by the products of combustion, when these have not been carried away by a ventilating flue. The products of combustion include carbon dioxide, sulphur compounds, &c., but the most dangerous is undoubtedly carbon monoxide. While, however, many deaths have been caused by unventilated geysers, it is perfectly true that many geysers have been fixed without ventilators, and have not proved in any appreciable degree injurious. The writer has practically tested this by standing in an unventilated bathroom (with the door and window closed) on several occasions during the whole of the time a bath was being filled and the geyser in full operation; not the slightest discomfort was felt. Other persons have had the same experience, and this is undoubtedly one reason why plumbers and others continue to fix geysers without ventilation flues.

But it must not be forgotten that there are geysers and geysers, and that their effects differ very widely according to the difference in construction. They may be classed in two divisions—(1) those in which the products of combustion come in contact with the water, and (2) those in which the water and products of combustion are kept entirely separate. Geysers of the former class are the cheaper of the two, and are also the safer, as the water condenses a large portion of the products of combustion. It is with geysers of this class that the writer has experimented; he would not care to carry out similar tests with geysers of the other type. Then, again, some geysers have ordinary open-flame burners, while others have bunsen burners; and, finally, the gas supplied by different companies varies very much in the amount of contained impurities. It is, therefore, bad logic to argue that, because one geyser has been safely used without a ventilation flue, geysers of all kinds and in all places may be left unventilated.

The great disadvantage of geysers in which the products of combustion come in contact with the water is that the water is fouled. If the burners are of the open-flame type and not carefully regulated to prevent smoke, the fouling may be so serious as to render the water unsuitable for bathing, and in any case it is unsuitable for drinking. Even at the best, when it appears almost perfectly clean, it often feels slightly greasy to the touch, and contains impurities which, uniting with the soap, leave dark sticky deposits on the bath which are very difficult to remove. The geysers also require to be frequently taken to pieces and cleaned if the water is to be even moderately pure.

As far as the water supply is concerned, those geysers are the best in which the water does not come in contact with the products of combustion; and bunsen burners are better than open-flame burners, as they produce less smoke and consume less gas for the same amount of heat. Geysers of this type, however, must invariably have adequate ventilation flues.

In cheap geysers the water and gas have separate taps, and it is therefore possible to light the gas and turn it on to the full before the water is turned on, or to leave the gas burning after the water has been turned off. In either case, the geyser may be damaged, if not absolutely ruined. The extra cost of fitting the geyser with a device by which the water and gas are controlled by a single tap is only a few shillings, and this arrangement ought always to be adopted.

In some geysers, the gas-lever contains a small branch-jet and tap; on the tap being turned the branch-jet can be lit, and this pilot-light can be then turned by the main lever into the body of the geyser, where it lights the large heating burners. In more expensive geysers, the whole of the burners are attached to a door, so that they can be swung outwards. This is a better arrangement, as the burners can be cleaned and kept in proper condition.

Geysers, in which the water and products of combustion are kept entirely separate, not only preserve the water in its original purity, but allow it to be discharged at a higher level according to the pressure of the supply, as the water-receptacle is really a closed vessel, or series of vessels, and performs the office of the ordinary bath boiler in a kitchen range. Geysers of this kind are often fitted with a rising pipe and shower-rose. The discharge pipe from the geyser is fitted with a cock, and the rising pipe is connected between the cock and the geyser; when the cock is closed the water rises to the shower-rose, which acts, therefore, as an expansion pipe. Hot water may also be conveyed from the geyser to a lavatory, housemaid's sink, or other fitting; but if all the outlets are controlled by taps, an expansion pipe must be provided to relieve the pressure in the closed water receptacle of the geyser. Where, however, different fittings are to be supplied with hot water, a special kind of water heater ought to be used, in which a considerable volume of water can be stored and kept hot by a number of comparatively small flames kept constantly burning.

Sometimes the gas-burners are placed in a chamber under the bath, so as to warm the water after the bath has been filled, or during the process of filling; but this arrangement is not applicable to baths of every material, and in any case it is apt to damage the bath. Cast-iron baths have also been made with small furnaces under them, but for the same reason (and others) they cannot be recommended.

OBITUARY.

MR. F. BOREHAM.—We regret to announce the death, on the 25th inst., in his sixty-second year, of Mr. Frederick Boreham, of No. 23, Highbury-grange and Nos. 73 and 75, Finsbury-pavement, London. Mr. Boreham was elected an Associate member of the Royal Institute of British Architects in 1871. Amongst his later architectural works we may mention his plans and designs for an enlargement of Shirley's Hotel, No. 37, Queen-square, Bloomsbury; the Congregational church in Snakes-lane, at the corner of Ray Lodge-road, Woodford, built by Mr. C. North, whose contract amounted to 2,334*l.*; and the new Wesleyan church, with school, at Crowborough, Kent, built by Mr. G. Beard, of that place, of Bath and local stone. In October last Mr. Boreham gained the second premium (there were nineteen competitors in all) for his designs and plans for the new Wesleyan church in Durham-road, Sunderland.

GENERAL BUILDING NEWS.

CHURCH, HORFIELD, GLOUCESTERSHIRE—The new Franciscan Church of St. Bonaventure has been erected near the Friary, Horfield. The site of the new church adjoins the Friary, and the building was erected at an expenditure of about 4,000*l.* The design is Early English, and the building consists of a nave, chancel, side chapels, aisles, baptistry, confessionals, a choir at the west end, and another choir for the Friars over the chapel on the Gospel side, pierced with arched openings into the chancel. The nave consists of five bays. The bays at the west end are flanked by the tower on the Apostle side and by the baptistry on the Gospel side. The nave is divided from the aisles by an arcading supporting the main principals of the roof, which has a span of 48 ft., and covers both nave and aisles. The arches of the nave are over 30 ft. high. The chancel is divided from the nave by an arch 37 ft. in height, and is lit by three lancet windows in the bay of the aisles. The confessionals are placed on the Gospel side of the church, with openings formed through the aisle wall. The west end of the nave is pierced with three lancet windows. The entrance door is in the centre of the nave wall, and there is a smaller door in the tower, opening into the porch. The organ chamber is approached by circular stairs, built at an angle of the tower. The baptistry is apsidal in form, and is lighted by a lancet window in each bay. The tower, baptistry, and west end bay were not included in the contract for 3,800*l.* The total length of the church is 90 ft., the width of the nave being 22 ft., the width across the church 48 ft., and the height from floor to roof 50 ft. The church is built of rubble stone with Bath stone dressing, and facings of blue stone. It will accommodate about 350 persons. The whole was designed by Messrs. Pugin & Pugin, including the Friary. The contractors were Messrs. R. W. Wilkins & Sons, of Bristol, and Bro. Patrick acted as clerk of works.

PRIMITIVE METHODIST CHURCH, LONGTON, STAFFORDSHIRE.—The Longton Central Primitive Methodist body has just opened a new building in Stone-road. The new building has been erected by Messrs. A. H. & J. W. Moore, of Longton, at a cost of about 4,000*l.* The main building is a chapel, with gallery, having sitting accommodation for 600 people. Adjoining there is a schoolroom, and under the chapel there is a suite of classrooms and vestries.

REOPENING OF ST. MARY QUAY CHURCH, IPSWICH.—St. Mary Quay Church at Ipswich was reopened after restoration on the 15th inst. The work was carried out in three sections. The first section included repair of the roofs of the nave, north aisle, organ chamber, and south porch, the work being carried out by Mr. S. A. Kenny. The second section included the new oak block floors to the benches, new floors to the passages, and the general cleaning and recolouring. This part of the work was carried out by Mr. A. Sadler. The remaining section of the work dealt with a street improvement, and was carried out by Mr. W. Pipe (part of the graveyard being given up to the road, and the boundary wall re-erected). The work has cost about 3,000*l.* The church was closed early in 1898, the building being pronounced unsafe by the Architect and Diocesan Surveyor, Mr. E. F. Bisshopp.

CONVENT CHAPEL, WORTHING.—The blessing of the chief stone of the new chapel which is being erected in the grounds of Notre Dame de Sion, Worthing, for the use of the inmates of the Convent, took place on the 19th inst. Built of brick, with Bath stone dressings, to the designs of Messrs. Elphick & Howell, of London, the new structure is estimated to cost some 4,000*l.* when completed. Provision has also been made for a recreation-room underneath the chapel. As the building is intended to be for the use of the inmates of the convent, the main entrance to the chapel is from the cloisters, but a separate entrance to the sacristy is also provided from the garden for the use of the priests. The floor both of the chapel and the recreation-room underneath is to be laid with maple wood blocks, and the Fawcett system of fireproof flooring has been employed.

PRESTONFIELD CHURCH, EDINBURGH.—It is proposed to erect Prestonfield Church, in Dalkeith-road, alongside the present iron building. In the meantime only a part of the building is to be erected, sufficient to meet present requirements. The plan includes a nave (the part now proposed to be built), capable of accommodating 500 persons, without galleries; a north and south transept and a circular apse, which will give additional accommodation for 300, thus making a total of 800. On the south side and near the west end of the church there will be a circular tower. This tower will on the ground floor form an entrance porch, having a projecting doorway to the outside. The octagonal part of the tower will be finished with an ornamental parapet, and the whole will be crowned by a low octagonal stone spire. The pulpit will stand against the pier at the junction of the north transept and apse, which will contain the communion table. The organ will be at the west end. There is room on the site for a church hall and other offices. In the meantime a session-house and vestry are to be provided, below which will be situated the heating chamber. The architects are Messrs. MacGibbon & Ross.

PUPIL TEACHERS' INSTITUTE, GOVAN.—The new Pupil Teachers' Institute, which has been erected within the grounds of Bellahouston Academy by the Govan Parish School Board, was opened on the 22nd inst. The building is two stories in height, and has a frontage to Paisley-road. The style is Scotch Baronial, and is in harmony with the Academy building. There are four classrooms and a physical laboratory on the ground floor, with access to each from a central hall, also headmaster's room, male and female teachers' classrooms and lavatories. On the upper floor there are four classrooms, which will be used for art and clay modelling, and, in addition, a chemical laboratory and lecture-room. The art rooms are divided by patent folding partitions forming three classrooms, but can be thrown into one large room if required. To the rear of the main building there has been erected a workshop and a cookery-room. The institute is illuminated throughout with electric light. The estimated cost of the buildings, which were designed by Messrs. Bruce & Hay, architects, is 10,500*l.*

BOARD SCHOOL, HALIFAX.—A new infants' school has just been opened in the Queen's-road, Halifax. The building, which is one story in height, has been erected from plans by Messrs. Walsh and Nicholas. It comprises a central hall 62 ft. long by 30 ft. wide, six classrooms and two babies' rooms, with cloakroom and other conveniences. Included in the scheme, but in a separate block, there are also a cookery and manual workshop, to be used by the boys and girls attending Queen's-road School. The school is provided with the electric light, and is ventilated on the plenum system. Altogether, including the site, the cost incurred represents a total of 8,800*l.*

THEATRE, NEWCASTLE.—The Town Improvement Committee of the Newcastle Corporation had plans before them on the 20th inst. for a proposed new theatre in Westgate-road, between the Tyne Theatre and Blenheim-street. They had been prepared by Mr. D. C. Wylson, of London, and provide for a building with a frontage of 69 ft. to Westgate-road and extending 150 ft. back. There are to be six entrances from Westgate-road and exits to Temple-street from the stage. Accommodation is to be provided for about 2,500—1,535 in the gallery. There is to be a public balcony in front of the building, stretching the whole length, and extending 8 ft. over the footway. The architect having adopted some minor alterations suggested by the committee, the plans were approved.

BOARD-ROOM, NEWTON, HANTS.—A new board-room is being erected in East-street, Newton. The new building is to be erected of Kingsteignton limestone, with Bath dressings, by Mr. Lewis Bearne, of Highweek, from designs by Mr. S. Segar. It will be 42 ft. long, 30 ft. wide, and 20 ft. high. Adjoining will be three rooms, containing waiting-room for applicants for relief, gentlemen's and

ladies' cloakrooms, and lavatories. Over the rooms will be the caretaker's-room, offices, and nurses' sitting-rooms. The existing board-room is to be adapted as receiving wards for males and females.

TECHNICAL INSTITUTE, CONSETT, DURHAM.—The new technical institute at Consett, which has been built and finished at a cost of about 5,000*l.*, has just been opened. The institute occupies a site at the north end of the town, facing into Park-road—the main thoroughfare between Consett and Blackhill. The building is set back from the road 16 ft., and the site is fronted by a wrought-iron palisade. The exterior walls are faced with deep red pressed brick and Dunhouse stone dressing. The principal entrance has a deeply recessed arched doorway, with carved spandrils forming the chief feature in the façade, and leads through a vestibule, with ornamental glass screen, into the entrance hall, from which direct access is obtained to the whole of the ground floor rooms. Right and left of the entrance are ladies' and gentlemen's retiring-rooms, with lavatory accommodation. Immediately opposite is the secretary's or headmaster's room, with large store-room adjoining. On the left side of the hall are two class-rooms, and on the right side of the hall is the physics laboratory. The whole of the corridors are of fireproof construction. The first floor consists of a chemical laboratory, storeroom, balance-room, and preparation-room, lecture-room, classroom, and an art-room. The second floor, which has been designed with the view of being adapted for use as an art-room, with storeroom, cloakroom, &c., in the future, will at first be utilised as caretaker's apartments. Detached from the main building is a large room, 47 ft. by 16 ft. wide, to be devoted to the teaching of manual instruction. The general contractor for the building is Mr. Edward Taylor, of Durham, and the painting was entrusted to Mr. Joseph Siddle, of Consett. The wrought-iron work has been executed by Mr. J. R. Crimson, of Gateshead, and the stained glass by Messrs. Reed & Millican, of Newcastle. The architect is Mr. C. E. Oliver, of Consett, and Mr. John Simpson, of Blackhill, acted as clerk of the works.

FOREIGN.

FRANCE.—The subject set by M. Pascal to the ten candidates for the Prix de Rome is characteristic; it is "An American Academy on the Banks of the Seine at Auteuil."——M. Louis Bonnier has been elected President of the "Société des Architectes Diplomés" for 1901.——Mdme. de Neuville, the widow of the military painter, has left to the Louvre several pictures by her late husband, as well as his portraits by Duez and Mathey. She has also left her jewellery to the Académie des Beaux-Arts, to found an "Alphonse de Neuville" prize for the encouragement of young artists who are not well off.——Parliament has authorised the City of Paris to spend nearly 8 million francs on the enlargement of the reservoirs of the Avre at Saint Cloud and for the removal to Auteuil of the pumping-machine at Chaillot, as well as on other works connected with sanitation.——Parliament has authorised the construction of a bridge over the Tancarville Canal, at the Pointe du Hode, at a cost of 149,000 francs. ——The château of Versailles is at last cleared of the scaffoldings which for several years have partly hidden the façade towards the gardens.——M. Peynot, the sculptor, has just completed the model for a monument to Français, the landscape-painter, to be erected at Plombières. The monument, the architectural portion of which will be by M. Godefroy, comprises a stele supporting a bust of the painter, flanked by two female figures, symbolising the Muse of the Woods, and the Muse of the Prairie.——Mr. Chifflart, the painter, has died at the age of 76. He commenced exhibiting in the Salon in 1845, and in 1851 obtained the Prix de Rome for a picture of "Pericles at the death-bed of his Son." He meddled, however, in politics, and took part both in the Revolution of 1848, and in the Commune of 1871. Under the Empire he was expelled from France, and joined Victor Hugo in Guernsey, where he illustrated one or two of Hugo's romances.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS. —The business of the late Mr. C. B. N. Snewin, timber merchant, of Hatton-garden and Farringdon-road, has been converted into a private company under the title of "C. B. N. Snewin & Sons, Limited."——Mr. M. H. Hadland, surveyor, has removed his office from New Bridge-street to St. Clement's House, St. Clement's-lane, Lombard-street, E.C.

A CENTRAL TOWER FOR TRURO CATHEDRAL.—At a meeting of Truro Cathedral General Committee on the 21st inst. it was announced that the donor of 10,000*l* for the erection of a central tower was Mr. J. H. Dennis, Arrowe Hall, Cheshire, formerly of Redruth. Mr. Dennis wished the designation of the tower should be the Victoria Tower.

LONDON GEOLOGICAL FIELD CLASS.—The season of Saturday afternoon excursions, conducted by Professor H G. Seeley, F.R.S., will commence on April 27. Visits will be made on each Saturday to places both north and south of London to examine the geological features of the Thames basin. Further particulars can be obtained from the Hon. General Secretary, Mr. R. Herbert Bentley, 43, Gloucester-road, Brownswood Park, N.

MEDICAL HUTS.—A medical inspection hut has been made at Hounslow Barracks, which is finished inside with "compo-board" by the British Compo-Board Company, instead of the usual matchboarding. We should think this would be an improvement on the boarding, both in the sense of appearance and of sanitary fitness.

SALARIES IN THE OFFICE OF WORKS.—It appears from the detailed statement furnished to Parliament in explanation of the estimate of 46,450*l.* for the salaries and expenses of the office of the Commissioner of his Majesty's Works and Public Offices that there are in the surveyors' division two principal surveyors, one receiving 1,200*l.* a year and the other 1,000*l.*; five surveyors at 500*l.* a year each, rising by annual increments of 25*l.* to 800*l.*, two of whom are in receipt of another 100*l.* a year each in respect of extra duties; nine first-class assistant surveyors at 310*l.*, rising by annual increments of 15*l.* to 400*l.*; sixteen second class assistant surveyors at 150*l.*, rising by increments of 10*l.* to 300*l.*; two draughtsmen at 210*l.*, rising by increments of 10*l.* to 250*l.*; nine first-class clerks of works at 250*l.*, rising to 300*l.* (with some allowances in respect of extra duties); and twelve second-class clerks of works at 150*l.*, rising to 200*l.* All these officers who serve up to the age limit of retirement become in due course entitled to superannuation allowances. The first-class assistant surveyor employed in China and Japan occupies an official residence, receiving the salary of a surveyor, and has besides a foreign service allowance of 100*l.* per annum, the maximum of salary and allowance being limited, however, to 750*l.* Another of these officers has a personal allowance of 100*l.* per annum; 6,100*l.* is paid for the services of draughtsmen and technical assistants as required, and it is notified that no fresh appointments will be made to the rank of permanent draughtsmen. Twelve of the second-class clerks of works receive an annual allowance not exceeding one-sixth of salary in lieu of apartments; one has an official residence. One of the first-class clerks of works, being in charge of the Embassy buildings at Constantinople, &c., receives an extra acting allowance of 100*l.* per annum and has a residence. The number of first-class clerks of works is to be reduced from nine to eight eventually, and the number in the second class will then be increased from twelve to thirteen.

THE PRESERVATION OF ARTISTIC REMAINS IN ITALY.—The adequate preservation from destruction by individual owners of ancient buildings and monuments is one of peculiar difficulty in a country like Italy, which is full of remains of the highest interest. In discussing this subject in his last report our Consul in Naples says that, year by year, now a church, now a gateway of a castle, or even the castle itself is declared to be a national monument. Treasures bought by dealers from remote villages are constantly pounced upon, and permission to export them is refused. No picture may leave the country without being submitted to experts, who have to decide whether it forms part of the history of the country or is in itself of such artistic value as to necessitate its retention. At Naples, and probably in all the important towns of Italy, there is a special commission consisting of sixteen members, presided over by the Syndic, who are appointed for four years. It is the duty of this commission to discover interesting things in the city which have not been noticed before, to prevent the disfigurement of those already under their care, and to keep the whole in order and repair. The Naples commission was established in 1874, and has lately published its proceedings to the end of 1898. In these twenty-four years it has done much excellent work, having rescued many interesting and beautiful fountains which were in neglected streets and transferred them to worthier localities. It has also saved a vast number of frescoes, cleaned off the whitewash with which they had been smeared, and opened them to the public for exhibition. Above all, it has saved a noble gateway of Alfonso of Aragon from destruction. Quite recently a collection of Capo di Monte china in Naples, said to be the finest in the world, has been dispersed. The Italian Government appointed a committee of experts to examine the collection, and they selected a number of standard specimens from each period of the manufacture. These have been photographed, and from the photographs coloured pictures will be executed. The result should be a valuable work on the history of Neapolitan ceramics.—*Times.*

STRAND IMPROVEMENTS.—On the 25th inst. at the Westminster Guildhall, before Mr. John Troutbeck, High Bailiff, and a jury, the case of "Hughes's Trustees *v.* the London County Council" was decided. It was a claim for compensation for the compulsory acquisition of the freehold of the premises, 25, Holywell-street, and 28 and 29, Newcastle-street, in connexion with the Strand improvement scheme. In opening the claimants' case Mr. C. A. Cripps, K.C., said that the jury would have noticed that the property which they had just viewed was in a very dilapidated condition, and the claimants were therefore only claiming in respect of the value of the land. The superficial area of the Holywell-street portion was 912 ft., and they had put the value at 6s. 6d. per foot. In Newcastle-street there was an area of 1,365 ft., which their surveyors would say was worth 5s. a foot. Witnesses would be called to prove that the total value was between 19,000*l.* and 20,000*l.*, but under their betterment scheme the London County Council were entitled to something like 3,000*l.* out of that sum, so his clients' claim came out at about 16,500*l.* Mr. Charles Augustus Lang (Jones, Lang, & Co.), surveyor, of King-street, Cheapside, said he was of opinion that the whole of the property was worth about 16,377*l.* He agreed with the price per foot mentioned by the learned counsel, and would give twenty-nine years' purchase. By Mr. Boyle: He did not think twenty-two years' purchase would meet the requirements of the case. Mr. P. E. Pilditch, of Pall Mall East, agreed with the previous witness's figures, with the exception that he thought twenty-eight years' purchase was fair. Mr. Benjamin Breach (Farebrother, Ellis, & Co.), of Fleet-street, said his estimate amounted to 16,267*l.* This closed the claimants' case. Mr. Boyle, K.C., on behalf of the London County Council, said that it was marvellous how property increased in value when it was wanted for a public improvement. He contended that the outside sum the jury ought to award was 10,500*l.* Mr. Edward Farmer (Debenham, Tewson, Farmer, & Co.), gave evidence to the effect that the claimants would be fairly compensated if they received 10,510*l.* Mr. Furber (Furber & Price), of Warwick-court, Gray's Inn, confirmed Mr. Farmer's evidence and figures. Mr. James Green (Weatherall & Green), of Chancery-lane, said his total was 10,517*l.*, or 7*l.* more than the two preceding witnesses. The jury retired to consider their verdict. After twenty-five minutes' deliberation they awarded the claimants 13,800*l.*

THE HOUSING QUESTION IN ROCHDALE.—A conference on housing reform, promoted by the local Trades Council, was held recently in the Rochdale Town Hall. Mr. James Firth, Secretary of the Trades Council, moved:—"That, in view of the overcrowding and bad housing conditions that prevail in our midst, this conference urges on the Town Council the adoption of Part III. of the Housing of the Working Classes Act, 1890, and the vigorous use of the powers they already legally possess. It further urges the formation at once of a local housing committee, on the widest possible basis, to further this object, and that this resolution be forwarded to the Town Clerk." Archdeacon Wilson, in summing up the discussion, said a suggestion that the Corporation should become possessed of the whole of the houses of the working classes was surely so gigantic that it might well be relegated to a very distant time. If only a portion of the land and some of the dwellings were in the hands of the Town Council, would they be devoted to a particular class, and would the class for which they were intended go into them? That was not the case in London, in the Peabody and other buildings. They were used by a higher class. No restriction had been invented yet which would limit those buildings to the people for whom they were intended. He asked whether it was justifiable to spend money out of the rates for the benefit of any class. At present they were attempting to deal with the question by side attacks, and in Rochdale not wholly unsuccessfully. There were 24,000 houses built and owned or built and sold by the co-operative societies, or built with money advanced by them. Those premises had been erected at a cost of over five millions. The Archdeacon emphasised a suggestion made by the Rev. H. Edmonds that they should take test cases and press them upon the Sanitary Authorities. There should be a public register, he said, of all the houses to let, and it should be the duty of the inspector to report upon those houses as they fell vacant, and say whether they were fit for habitation. All sanitary regulations should be made compulsory. The action of trades-unions had largely increased the cost of building by limiting the work done. In one case a cottage was built for 108*l.* which would have cost 150*l.* if done by contract. The reason was that the people built it themselves, and put into it as much work as they could instead of as little as they dared. Unless our trades-unions adopted a more sound basis of economics than at present there was trouble before England, and it would not be confined to the building trade. The amended resolution as given above and an amendment were put to the vote, and the resolution was carried by a majority of 14. Afterwards it was carried almost unanimously.

INSTITUTE OF BRITISH DECORATORS. — The annual meeting of the Northern District of the Institute of British Decorators was held at the Great Northern Hotel, Leeds, on the 22nd inst., the business being the election of officers and committee for the ensuing year. The following were appointed: — Chairman: Councillor John Smith, Sheffield; vice-chairmen: Alderman Kendall, Huddersfield; Mr. Thomas Preston, Burnley; Mr. George G. Laidler, Newcastle-on-Tyne; and Mr. George F. Allan, Stockton; treasurer: Mr. George Spencer, Bradford; committee: Messrs. J. G. Cole, Newcastle; James Tetlow, Huddersfield; J. Ratcliffe, Bolton; W. H. Cunliffe, Blackburn; and John Cantrill, Manchester; secretary: Thomas Foster, Padiham. It is the intention of the committee to arrange for lectures to be delivered next winter in some of the principal towns comprised in the Northern District.

BRISTOL MASTER BUILDERS' ASSOCIATION.—On the 19th inst. the annual dinner of the Bristol Master Builders' Association was held at the Royal Hotel. Mr. George Humphreys presided, and there were present the Right Hon. the Lord Mayor of Bristol (Mr. J. Colthurst Godwin), Mr. August Krauss (President of the National Federation of Building Trades' Employers of Great Britain and Ireland), Mr. Tom T. Lindrea (President of the Bristol Chamber of Commerce), Mr. Frank Wills (President of the Bristol Society of Architects), and others. The loyal and patriotic toasts having been honoured, Mr. Frank N. Cowlin proposed "The Right Hon. the Lord Mayor and the Corporation of the City of Bristol." The Lord Mayor, in responding, said that if they were to hold their own with the cities of the world, they must extend their docks at Avonmouth in order to grapple with the trade. He hoped they would send some of the builders to the Council in addition to Mr. Bastow. He would like to see Mr. Krauss, Mr. Cowlin, and some others take their part as members of the Corporation. Alderman Pearson proposed "The Trade and Commerce of Bristol," and Mr. T. T. Lindrea responded. Mr. E. Walters proposed "The Architects and Engineers," and spoke of the good relations which existed between them and the builders. Mr. Frank Wills, Mr. Henry Williams, and Mr. T. J. Scoones replied to the toast. Mr. J. Bastow (in the absence of Mr. Arthur Lee) proposed "The National Federation of Building Trades' Employers of Great Britain and Ireland." Mr. A. Krauss, in responding to the toast, said that the toast he had to respond to might appear to some of them a new one, but it was not so; with the New Year the National Association of Master Builders changed their title to the National Federation of Building Trades' Employers of Great Britain and Ireland. For a long time it had been felt that federations were badly wanted, and they were glad to see their federation was getting stronger every day, and that kindred associations, particularly in the north, joined their federation. They had drawn up new rules, had a fresh mode of electing their council, and had much improved their contract form, which they hoped would meet with approval from architects, engineers, and municipal councils, as a fair contract would do away with a lot of differences between builders and their clients. The four federation centres had now over six thousand members, and the question arose as to a crest. Several designs were submitted, but none of them was approved, but last week he received a suggested design of crest from their honourable vice-president, Mr. J. S. Jones, Liverpool, which was very artistic, and most likely would be accepted. That crest he would have to bring forward at their next half-yearly meeting at Glasgow. He was glad to inform them that they had an emergency committee consisting of two members of each federation—Mr. Church, Bristol, and Mr. Long, Bath, represent the West of England centre. Through that committee he had good hope that some differences, if they did occur between themselves and their employees, might be settled without strikes. At their last half-yearly meeting in London he said all strikes must come to an end sooner or later, and therefore why not try to settle disputes without strikes? Only last year 150,000*l.* was lost in wages in the building trade alone, and they hoped that would not be the case this year. The building trade strike in Chicago, which lasted twelve months, and which must have cost an enormous sum of money, was settled last month. The principal provisions in the agreement were: No limitation of a day's work; no restriction on the use of machinery or tools; no restriction on the use of materials manufactured by non-unionists except prison-made; use of apprentices allowed; foreman to be agent of employer instead of unions; workmen to work for whom they please; employers to be allowed to hire or discharge whom they pleased; wages to be 1s. 9½d. per hour. When reading that he thought this should be very satisfactory to both parties.—Mr. G. Wilkins proposed "The South-Western Building Trades' Employers' Federation and Local Kindred Associations." The toast was spoken to by Alderman H. J. Spiller (Taunton) and C. H. Long (Bath). Mr. G. H. Perrin submitted "The Bristol Master Builders' Association." The President, in responding, said it was now some six or seven years ago since he had the honour to preside over the annual dinner, and in that time they had seen many changes, and they could not but deplore the death, during the past year, of their esteemed late vice-president, Mr. G. M. Gosling, a gentleman of large experience in the building trade, and whose loss was a severe blow to the Association.—Mr. E. Walters then took the chair as President of the Association amidst much applause.

NORTH STAFFORDSHIRE BUILDERS' ASSOCIATION.—The annual dinner of the N.S. Builders' Association was held at the Grand Hotel, Hanley recently. The chair was taken by Mr. J. Gallimore, the President of the Association. "The King," on the initiative of the President, having been accepted, Councillor Price proposed "The Local Governing Bodies." The Mayor of Hanley, the Mayor of Stoke, and the Mayor of Newcastle responded. The Mayor of Longton, the brother of a builder, gave "The Master Builders' Association." By way of reply, the Secretary of the Association (Mr. Bowden) read the annual report, which stated that 95 per cent. of the builders in the district are members of the Association, all of whom have insured their workmen at special low rates against liability for accidents of all kinds. The Association had a largely-increasing balance at the bank, which would no doubt form the nucleus for a North Stafford Builders' Provident Institution or a Builders' Exchange. The stonemasons had given notice of an advance of ¾d. per hour. The Association has offered them ¼d. The labourers have also given notice for an advance, but as the notice was not sent as per rule or custom, the employers have decided not to entertain it. The bricklayers of Leek have also given notice for an advance. During the last thirty years wages in the building trade in the district have risen 90 per cent. and building materials 40 per cent., 25 per cent. of this took place two years ago. The Association is anxious to have a uniform contract, similar to the one used by the National Builders' Association which contains an arbitration clause, and of which contract 2,000 were used in England during the last half-year. Some difficulty has arisen owing to the law having decided that an estimate as now sent in, shall or may form a contract. The following form of tender is, however, being prepared to meet this, and the architects are to be requested to use them:—"This estimate, if accepted, is subject to an approved written contract, and is not to be taken as in itself to constitute a contract." Something like this was necessary, as errors of all sorts sometimes occurred in tenders, and an opportunity should be given to rectify them. Councillor Yoxall, J.P., gave "The Architects and Surveyors." Mr. Lynam, Mr. Dain, Mr. Scrivener, Mr. Wood, and Mr. Snape responded. Councillor Cartlidge proposed "The Magistrates," and Messrs. E. Walley and W. Grant acknowledged it. Councillor P. H. Bennion gave "The Building Trade," and referred to the splendid organisation of to-day as compared with the utter disorganisation of a few years ago; to the fact that there was less of the cut-throat competition and a waning desire to filch jobs at anything but a paying price; to the good wages paid for labour and to the vanishing jerry builders. Mr. Gallimore replied.

SUTTON PLACE, NEAR GUILDFORD.—The recent sale of the contents of Sutton Place, including some fine examples of seventeenth and eighteenth century furniture, produced a total of 4,000*l.* It seems a pity that the house, which, we read, has been rented by a well-known newspaper proprietor, should have been thus deprived of its equipment, which so well harmonised with the house itself. The annals of Sutton Place, with architectural drawings to scale by Mr. C. F. Hayward and Mr. A. Gladding, have been compiled by Mr. Frederic Harrison in a handsome volume published seven years ago. Built in 1520-30 by Sir Richard Weston, an adventurer and courtier who had travelled abroad, it is chiefly interesting as a very early example of a large residence erected without any view to its defence, and of an attempt to incorporate Italian detail in English workmanship with the copious use of terra-cotta as at Layer Marney. The gate-tower front was destroyed in the latter part of the eighteenth century. There now remain three sides of the main quadrangle and a smaller court entered from one of the wings. The quadrangle is distinguished by its high Tudor windows having cusped heads and flat-pointed doorways with dressings of terra-cotta blocks, fashioned as masonry, and enriched with ornament after the Italian style, which are freely introduced amongst the jambs, transomes, mullions, and mouldings of our own native masons' work. Around the courtyard, which is 80 ft. square, are about forty apartments, the hall being on the side opposite the former entrance tower.

CHURCH BUILDING SOCIETY.—The Incorporated Society for Promoting the Enlargement, Building, and Repairing of Churches and Chapels held its usual monthly meeting on Thursday, March 21, at the Society's house, Dean's-yard, Westminster, the Rev. Canon C. F. Norman in the chair. Grants of money were made in aid of the following objects, namely: building the first portion of the proposed new Church of St. Michael and All Angels, Ocklynge, in the parish of St. Mary, Eastbourne, 100*l.*; and towards enlarging or otherwise improving the accommodation in the churches at Ravensthorpe, St. Saviour, near Dewsbury, 100*l.* in lieu of a former grant of 25*l.*; Bewcastle, St. Cuthbert, near Carlisle, 15*l.*; Little Oakley, St. Mary, near Harwich, 50*l.*; and Whicham, St. Mary, near Carnforth, Cumberland, 20*l.* Grants were also made from the Special Mission Buildings Fund towards building mission churches at Churwell, in the parish of Morley, near Leeds, 25*l.*; and Willesden, St. John the Baptist, Middlesex, 50*l.* The following grants were also paid for works completed: Hales, St. Margaret, Norwich, 15*l.*; Westcliff, St. Alban, Southend, Essex, 50*l.*; Belshford, St. Peter and St. Paul, near Horncastle, Lincoln, 25*l.*; and South Ossett, St. Aidan, near Wakefield, 20*l.* In addition to this the sum of 276*l.* was paid towards the repairs of thirty-one churches from trust funds held by the Society. The annual general court of the Society will be held at 3 p.m. on Friday, May 17, at the Church House, Dean's-yard, Westminster, when the chair will be taken by the Archbishop of Canterbury, President of the Society.

LEGAL.

DISPUTE BETWEEN A BUILDER AND THE CORPORATION OF BRISTOL.

THE case of Krauss *v.* the Mayor and Corporation of Bristol came before the Court of Appeal, composed of the Master of the Rolls and Lords Justices Collins and Romer, on the 25th inst., on the appeal of the defendants from an order of Mr. Justice Grantham refusing to refer to arbitration a dispute between the plaintiff, a builder, and the Corporation, in reference to a certain contract in connexion with the Bristol lunatic asylum. The action was brought for alleged delay and interference with the plaintiff in executing his contract, thus causing him loss of time and additional expense. The Corporation contended that the matter in dispute was one to be referred under contract to arbitration, and that whatever delay was occasioned to the plaintiff was owing to his having laid down unseasoned wood which the architect had rejected. For the plaintiff it was submitted that the action was one in regard to a matter outside ordinary disputes, and that he was prevented from proceeding with his contract because the isolation hospital of the asylum had not been supplied with the heating apparatus in good time, and of another contractor not supplying the grates at the proper time, thus delaying the laying down of the floor of the hospital. Counsel for the plaintiff contended that such issues as were raised by the present case could not properly be determined by arbitration, but it was a proper cause for the King's Bench Division.

In the result their Lordships held that the matters in dispute ought to be settled by arbitration, and made an order accordingly. They therefore allowed the appeal with costs, and stayed the action.

CASE UNDER THE BUILDING ACT.

AT Greenwich Police-court, on the 20th inst., Walter Hill & Co., Limited, of Southampton-row, W.C., were summoned by the London County Council for erecting on the forecourts of certain houses in Sydenham a structure in contravention of Part III. of the London Building Act. Mr. Chilvers appeared for the Council, and Mr. Bethune was counsel for the defence. Mr. Chilvers said that the structure, which was erected without the consent of the Council, was an advertising hoarding, 12 ft. in height and 336 ft. in length, and was entirely in advance of the general building line. The attention of the Council was drawn to the structure in September last year. Mr. Bethune argued that the hoarding differed in no respect from an ordinary builder's hoarding, and that it practically enclosed vacant land, as the houses, which belonged to the Leathersellers' Company, were in a bad condition and, with one exception, unoccupied. The houses were about to come down. Times were bad enough just now, and he did not think the owners could be blamed for seeking to get some income from the hoarding. He argued that the hoarding was not a structure to which the Act applied, and that it was a temporary erection. Evidence was called on both sides, and eventually Mr. Kennedy said that there was a degree of permanence about the erection, which had been standing six months and was very likely to remain. He regarded the hoarding as a structure, and could not recognise it as enclosing only vacant land. There would be an order to remove the structure with fourteen days, and the defendants would be fined 40s. and five guineas costs.—*Times.*

CARPENTER'S CLAIM FOR COMPENSATION UNDER THE WORKMEN'S COMPENSATION ACT.

THE case of Whitehead *v.* Reader came before the Court of Appeal, composed of the Master of the Rolls and Lords Justices Collins and Romer, on the 26th inst., for judgment on the appeal of the defendant, the employer, from the award of the County Court Judge of Coventry under the Workmen's Compensation Act, 1897, awarding the applicant, a carpenter and joiner, compensation at the rate of 12s. 6d. a week, being one-half of his average weekly earnings, for an accident which happened to him whilst in the employ of the defendant.

It appeared that the applicant was sharpening one of his tools at a grindstone, which was worked by a leather band which passed over shafting connected with a gas-engine. The band slipped off the stone, and the applicant, in trying to replace it, sustained personal injuries. The case for the defendant was that the applicant had orders not to touch the machinery, and in trying to replace the band was acting contrary to orders. It was also contended on the defendant's behalf that the accident did not arise out of and in the course of applicant's employment, on the authority of Lowe *v.* Pearson. The County Court Judge, however, decided that the case of Lowe *v.* Pearson did not apply, and made an award in favour of the applicant, as before stated. Hence the present appeal of the employer.

The Master of the Rolls, in giving judgment, said that the only point on the appeal was whether the injury to the applicant arose out of and in the

course of his employment. It was clear that the man was employed on a factory within the meaning of the Act. It appeared to his lordship that the injury, *prima facie*, arose out of and in the course of the applicant's employment, but the man had been told not to touch the machinery, and it was said that this caused the injury not to have arisen out of and in the course of his employment. The question was, did disobedience to this order cause the man not to have been injured in the course of his employment? He thought not. It could not be said that every disobedience to an order terminated a man's employment. Disobedience might or might not give a defence to a master under the clause relating to serious and wilful misconduct. He thought that the learned County Court Judge was right in holding that the case of "Lowe *v.* Pearson" had no application to the present case. That was not a case of any employment at machinery at all, and the applicant in that case clearly went outside his employment and, in addition, disobeyed the express orders of his master. In the present case the applicant's course of employment was to grind tools at the grindstone, and though he was told not to touch the machinery, still he was in the course of his employment when, in trying to adjust the band after it came off, he was injured. In his opinion the County Court Judge was right in coming to a conclusion in favour of the applicant, and the appeal must be dismissed.

The Lords Justices concurred, and the appeal was accordingly dismissed with costs.

Their Lordships refused a stay of execution pending an appeal to the House of Lords.

CASE UNDER THE EMPLOYERS' LIABILITY ACT.

AT the Southwark County Court on Tuesday, before his Honour Judge Addison, K.C., and a jury, Messrs J. Aird & Sons, Belvedere-road, Lambeth, were sued by Wm. Moore, labourer, of York-road, Teddington, who sought to recover compensation under the Employers' Liability Act for alleged personal injuries. Mr. Turrel was counsel for plaintiff, and Mr. Scarlett for the defendants. Mr. Turrel said the plaintiff, when in the service of the defendants, was employed on the River Diversion Works which were being executed at Kempton Park. On September 19 last he was sent to work in a trench about 27 ft. deep in which a 48-in. main was being laid. The sides of the trench were supported by struts, and a ladder reached from the bottom to within some feet of the top, so that the men had to climb up part of the way by means of the struts. The plaintiff called the attention of the foreman to the fact that the ladder was too short, but no notice was taken of the complaint. On the day mentioned he descended by the ladder and worked by himself in the trench until dinner-time. When the call was made he walked to where the ladder had been, but found that some one had drawn it away. Consequently he started to climb the struts, and when he had nearly reached the top a "punch" which he caught hold of gave way, and he fell to the bottom. He alighted on his feet, and being a heavy man and fifty years of age, he was much shaken and upset. He ultimately got out of the trench by crawling through the pipe a distance of about 240 yards. He did not speak to any one about the accident, and finished his work, although feeling very ill. He kept his own counsel for ten days, but at the end of that time he had become so ill that he had to give up and take to his bed. Then a letter was written to the defendants informing them of the accident and his condition. He was attended by a doctor, and he was unable, as the result of the accident, to do any work for a period of sixteen weeks. His wages averaged 32s. per week. He relied in this case on the first subsection of Section I. of the Act in that there was a defect in the ways, works, machinery, or plant connected with or used in the business of the defendants, notice of which defect had been given.

The plaintiff was called, and bore out counsel's statement, adding that there was not a ladder at that part of the works 31 ft. 6 in. or 34 ft. long. He had never seen men climb up by the struts when ladders were available.

Dr. Atkinson, of Hampton Hill, said he examined the plaintiff on September 29, and came to the conclusion that he was ruptured. He, however, subsequently discovered, when in consultation with the defendants' doctor, that this was not so. The plaintiff did suffer great pain in his arm. He was surprised that plaintiff could continue work for ten days after such a fall.

Thomas Challis, defendants' foreman, declared that there were two ladders over 30 ft. in length which the plaintiff could have used, and that not a word about any fall was mentioned until the letter from the plaintiff was received. He did not notice anything unusual about the plaintiff, who was not at work by himself at any time.

Several witnesses were called, who stated that they were working with the plaintiff on the day of the alleged fall, but they did not notice anything wrong with the plaintiff or that his clothes were more muddy than usual.

Before the completion of the defendants' evidence his Honour stopped the case, remarking that there was every circumstance of grave suspicion against the plaintiff. It would be a terrible thing if men were allowed to make such complaints ten days after an alleged accident and maintain action upon them.

The jury expressed the opinion that they were quite satisfied that plaintiff had no case, and the action was, therefore, struck out, with costs against the plaintiff.

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

23,406.—KILNS FOR DRYING AND BURNING TILES, POTTERY, &C.: *G. Möller and P. Pfeifer.*—Waggons are drawn through the heating-chamber in order that the green goods with which they are loaded may be exposed to hot gases flowing from the furnace through flues to the exhauster, and be then exposed to the heated air which is drawn by exhausters. The goods are next transferred to other carriages and conveyed through the burning chambers; they are allowed to become cool whilst the following charge is being dried in the heating chamber.

23,413.—ARMATURES FOR DYNAMO-ELECTRICAL MACHINES: *M. H. Robinson and M. H. P. R. Sankey.*—In the case of a dynamo-electrical machine wherein the armature or revolving portion is directly coupled on to the fly-wheel of the engine, the inventors discard the customary dynamo-shaft, and they, instead, cast the spider or boss with a centrical extension so that it shall form a journal to run in the bearing.

23,451.—A SAFETY APPLIANCE FOR WINDOWS: *F. F. Harley.*—The inventor's object is to provide means of controlling the opening of window-sashes in asylums and similar buildings and of frustrating attempts to remove the sashes from their frames. They place L-shaped pieces of the sash in engagement with corresponding projecting pieces inserted into the pulley stile. When the sash has been caused to slide so that those pieces are clear from one another it can be removed; for the L-shaped pieces may be substituted a stud upon the frame that will engage with a slot either in a metal plate upon the sash-stile or in the sash-stile itself.

23,458.—CONSTRUCTION OF FIREPROOF CEILINGS: *M. Münch-Phipps.*—The inventor fashions slabs or blocks (which may be hollow or solid), so that they shall be askew in a diagonal direction, or in the direction of their length or breadth, and shall have their abutting surfaces curved, or plane, or zig-zagged, with grooves in their sides for taking keys of mortar or iron rods. The blocks are formed with inclined sides, so that a ceiling may be built up without the use of props and centres.

23,498.—A PLUG FOR TAMPING BORE-HOLES AND STOPPING PIPES: *F. Bovier.*—An expansible plug, that may be afterwards removed, is made up of a set of split cones. Where two cones are used, having a groove for the fuse, a tube is joined to one end wedge and a rod is screwed on to the other. On the end of the tube is a nut, through which is passed a screwed sleeve that presses against stops on the rod, whereby as the rod is turned up the wedges can be driven either asunder or together. The rod, sleeve, and nut have handles, and the tube is retained against the hole with a washer and a clamp.

23,510.—TREADS AND RISERS OF STAINS: *E. Wood & Co. and H. P. Butler.*—Pressed steel plates having flanges at their ends and non-slipping upper surfaces, with corrugations and projections, constitute the treads, whereof the front edges may be extended downwards on to the next tread so as to make a riser, or be turned downwards to make the stair-nosings. The inventors bolt or rivet the risers on to the tread-flanges, and similarly fasten the flanges to the stringers. End-plates can be used for joining the flanged treads, and the risers can be cut away for making a partly open staircase.

23,514.—A BRAKE MECHANISM FOR HOISTS, &C.: *W. T. Eades and E. Allday.*—A pinion, or a train of wheels imparting the slow motion, communicate movement from the first motion shaft, and the pinions of the train are arranged upon a common boss, a collar, having a cam-shaped end in engagement with a corresponding end upon a sleeve that moves loosely upon a fixed shaft and is held in a bearing, being screwed within the boss. During the operation of lifting, the sleeve and the collar turn together in unison without separating from one another lengthwise, but as the load begins to fall—the power being removed—it exerts an expanding force between the collar and the sleeve, and so puts the brake into play. Stopping-pins limit the extent of the displacement lengthwise of the sleeve. A sheave and a weighted chain, or a spring, may be employed instead of a lever (for controlling the pressure) of which the boss is threaded upon the screw-threaded end of the fixed shaft.

23,576.—RADIATORS FOR HEATING BUILDINGS: *M. M. Brophy.*—Hot water is admitted near the top of the radiators which have hinged sections or leaves, one of which is pivoted upon a hollow foot on to which the supply and return pipes are secured. The foot and the socket are joined by means of a flanged connecting ring, that will turn upon the bearing surface of the foot, and is kept in its place with a gland. At the free end of the radiator is a roller or bearing-wheel for meeting inequalities in the floor, the wheel being mounted in a box that slides within an outer fixed casing. Uniform sustaining power in any direction is afforded by a spiral spring and pivoted levers that are linked to a bridge-piece, and to meet the case of a very unlevel floor a trunnion is placed in the upper socket of the leaf of the radiator, whilst the pivot support is attached to the higher part of the radiator; if it is desired to take out the leaf the trunnion can be moved away.

23,584.—A METHOD OF SECURING SCREWS IN BRICK OR STONE WORK: *W. F. Loffelhardt.*—For fixing a screw into bricks or stone are devised metal plates from which project inclined tongues or spikes for engagement respectively with the sides of the hole when the screw is turned in and with the thread of the screw. A split screw socket can be produced by joining some of the plates together at their inner ends, and the outsides of the plates may be roughened; in the latter mode the tongues may be discarded.

23,590.—AN APPLIANCE FOR SHUTTING DOORS: *F. Kelly and T. Kelly.*—The door-plate is fashioned in one piece with a cross-bar that is laid between two cams in which are grooves that take lugs upon the cross-bar, chains join the cams to two crossing levers which are pivoted on either side of the door-plate and are also linked to compound springs which are bolted on to an inner casing; the inner casing is secured within the outer casing, which is fastened on to the floor.

23,611.—JOINERS' CRAMPS: *H. Lawson.*—A cramp devised for making door-frames, window-sashes, and similar woodwork has four slotted arms linked to nut-pieces at their crossing, and fitted with adjustable jaws to be closed or opened with a right and left-handed screw. The jaws will be forced towards one another for clamping the frame as the nut-pieces are moved asunder; the screw can be adjusted upon its bar-support and thumb-nuts serve to adjust the jaws upon the four arms.

23,612.—FLUSHING APPARATUS: *L. H. Lloyd.*—By this contrivance the water is collected in a holder or receiver to which is attached a discharge valve that is worked by the hand, the customary tipping tank not being employed, or a float will serve for an automatical working of the valve. An opening is provided for a direct discharge of over-flow water into the basin.

23,616.—WINDOW SASHES: *A. McKinnon.*—Cords passed around pulleys in order that they may balance one another join the sashes together. For withdrawing or reversing the sashes the beads and window head are made in a movable form, and for purposes of pulling down the upper sash without opening the lower one the inventor secures one end of the cord to a pierced sliding-bar, which a spring bolt keeps in its position; when that bolt is drawn backwards the tension upon the cord is maintained with a spring on the sliding-bar. Recesses in the frame take the parting beads, which can be moved outwards, when they are lowered, with fixed cams or pins, whilst the inside beads can be detached, the head or lintel being hinged that it may be turned out of the way. Rods which carry the pulleys are passed through their pivoted plates into segmental guide-slots cut in fixed plates; the rods remain horizontal under normal conditions, but when one wishes to turn the sashes the rods are to be tilted with a wire or rod and crank. Modified forms of the invention are specified.

23,623.—PLUG COCKS: *C. Meyer.*—For a plug cock with a lifting motion a screwed collar is fitted on to the plug, and a nut fastens the handle of the cock on to the collar which operates within the body of the valve; the opening of the valve by a turning of the handle raises the plug off its seating, and the plug is again depressed as the valve is being closed.

23,663.—ALTERNATING-CURRENT MOTORS: *J. Burke.*—An iron core which has notches constitutes an armature for induction motors, a series of independent closed circuit conducting elements (each of them embracing teeth) being inserted in the notches.

23,667.—PROCESS OF MOULDING BRICKS: *E. de St. Hubert.*—The hopper from which the material is fed to the moulds is fitted with a cut-off slide (that is worked by a handle) and a feeding screw or stampers. Three horizontal discs cast in one whole with a cylindrical casing constitute the rotatory mould table, which is carried between grooved rollers, and is driven with bevel wheels or other gearing. The pressing plungers are carried by vertical rods which have roller guides and friction rollers running upon a fixed cam ring. Fixed cams, which act through horizontal sliding rods, shut and close the hinged lids of the moulds. An endless chain and bevel gearing from the driving shaft work the feeding screw.

23,689.—A METHOD OF DRYING BRICKS, &C.: *L. Nefkens.*—The bricks, tiles, &c., are laid upon the perforated floor of a drying chamber, underneath which are the heating pipes. An insulating space is formed in the roof, and the carrying gable stone or brick has a central cavity for the insulating material together with a pierced projection for the flow of heated air. For a saddle-shaped roof the gable stone or brick is made with two pierced projections.

23,732.—A CUT-OFF FOR GAS VALVES: *F. Murphy and H. L. Arnold.*—For an automatical cut-off the inventors fit a hollow plug-cock in the valve casing, and a cut-off valve in the plug-cock. A spring presses from above upon the cut-off valve, which is

sustained by a rod that has its cap embedded in some fusible composition placed within the top portion of the plug-cock. As the composition melts with an increase of temperature, the main valve becomes shut through the action of the cut-off valve, which the spring forces downwards upon it.

23,753.—ELECTRICITY CURRENT METERS: *E. C. Rimington.*—A maximum current indicator combines a method of registering the highest pressure of gas for any period with an electrolytical cell from which the resultant gas escapes through an aperture or a porous plug, and which will serve for measuring total quantity. The pressure of the gas may be caused to exert itself in one limb of a U-tube, and so make a liquid in the other limb overflow into a measuring tube or to mark a measuring rod, or else a Bourdon gauge may be employed for measuring the pressure, the gauge pointer being set to move another pointer held by friction. A large receiver upon the gas tube will impart a slow action to the indicator, or the flow of liquid can be checked by a constriction of the U-tube or by means of a porous plug, or a plate having a small orifice, that shuts the second limb of that tube.

23,774.—BRICKS FOR THE FLOORS OF KILNS: *Place & Sons and W. H. Place.*—The inventors fashion chequer bricks for the floors of kilns with side ribs in the shape of wedges and with lower distance ribs to afford means of reducing hindrances against draught, preventing the collecting of rubbish and dirt upon the walls, and providing a tie to hold walls together.

MEETINGS.

FRIDAY, MARCH 29.

Architectural Association.—Mr. H. D. Searles-Wood and Mr. H. R. Appelbee on "Small Suburban Houses." 7.30 p.m.

SATURDAY, MARCH 30.

Architectural Association.—Spring Visit to the new buildings of the Prudential Assurance Company, Holborn. Messrs. Alfred Waterhouse, R.A., & Son, architects. 2.30 p.m.

Royal Institution.—The Right Hon. Lord Rayleigh on "Sound and Vibration." VI. 3 p.m.

Sanitary Institute (*Demonstrations for Sanitary Officers*).—Inspection at the Sewage Outfall Works, Barking. 3 p.m.

MONDAY, APRIL 1.

Royal Institute of British Architects.—(1) Election of candidates for membership. (2) Discussion of an amended form of conditions of building contracts. 8 p.m.

Society of Engineers.—Mr. Perry F. Nursey on "The Production of Metallic Bars and Tubes under Pressure." 7.30 p.m.

Liverpool Architectural Society.—Mr. A. N. Paterson, M.A., on "Tradition, Archæology, and Art." 6 p.m.

TUESDAY, APRIL 2.

Institution of Civil Engineers.—Mr. E. Sandeman on "The Burrator Works for the Water Supply of Plymouth." 8 p.m.

WEDNESDAY, APRIL 3.

Royal Archæological Institute.—(1.) Mr. W. H. St. John Hope on "The Guilbertine Priory of Watton, Yorkshire." (2) Mr. O. M. Dalton, F.S.A., on "The Gilded Glass of the Catacombs." 4 p.m.

British Archæological Association.—Miss Russell on "The Structure and Probable History of some of the Rude Stone Forts of Scotland." 8 p.m.

Institution of Junior Engineers.—Mr. A. H. Barker, Wh.Sc., on "Works Management." V. 8 p.m.

Builders' Foremen and Clerks of Works' Institution.—Ordinary meeting of the members. 8 p.m.

THURSDAY, APRIL 4.

Civil and Mechanical Engineers' Society.—Mr. A. Hanssen on "The Proportions of Cylinders for Multiple-Expansion Engines." 8 p.m.

SATURDAY, APRIL 6.

Edinburgh Architectural Association.—Visit to Sauchie and Clackmannan Towers.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

March 14.—By S. & G. KINGSTON (at Holbeach).

Holbeach Marsh, Lincs.—Holbeach Hurn Farm, 325 a. 3 r., f. £17,900

March 18.—By FISHER, STANHOPE, & DRAKE.

Stamford Hill.—23, East Bank, u.t. 86 yrs., g.r. 7*l.* 10s., e.r. 55*l.* 620
27, West Bank, u.t. 82 yrs., g.r 8*l.*, r. 53*l.* 550
Stoke Newington—19, Clissold-rd., u.t. 47 yrs., g r. 7*l.* 7s., e.r. 50*l.* 510
Leyton.—75, Capworth-st., u.t. 64½ yrs., g.r. 5*l.*, r. 26*l.* 200

By G. B. HILLIARD & SON.

Hatfield Peverel, Essex.—The Manor of Hatfield Peverel (otherwise Hatfield Bury), with the quit, free, and other rents, &c. 2,370
Sandon, Essex.—The Manors of Sandon Hall and Jepcrack, or Gibcrack, with their quit, free, and other rents, &c. 360

By MAY & PHILPOT.

Brixton.—4, Arodene-rd., u.t. 89 yrs., g.r. 10*l.*, e.r. 55*l.* 650
Water-lane, Jersey Lodge, u.t. 33¾ yrs., g.r. 13*l.*, e.r 60*l.* 450
Norwood.—4, Ulverstone-rd., u.t. 90 yrs., g.r. 6*l.* 10s., r. 36*l.* 335

By NORMAN & SON (at Stratford).

Barking, Essex.—13 to 19 (odd), Fisher-st., and 1 and 2, Kill Horse-alley, f. 375
Bethnal Green.—305, Cambridge-rd., and 1, Paradise-row, u.t. 9 yrs., g.r. 15*l.* 200
186 and 188, Cambridge-rd, u.t. 9 yrs., g.r. 9*l.*, r. 75*l.* £300
212 and 214, Cambridge-rd., u.t. 9 yrs., g.r. nil 215
24 and 26, Stainsbury-st., u.t. 23 yrs., g.r. 6*l.*... 280
Stepney.—9, Belgrave-st., u.t. 7½ yrs., g.r. 10s. .. 110
24, Barnes-st., u.t. 25 yrs., g.r. 3*l.* 5s 250

March 19.—By DAVID BURNETT & CO.

Ilford, Essex.—20, High-st., f., r. 140*l.*..... 3,250
Beckenham, Ken.—Brackley-rd., "Rosetta," and ¾ of an acre, u.t. 70 yrs., g.r. 2*l.* 2,200

By WALTER HALL.

Bayswater.—114, Westbourne-grove, f., also f.g.r. 9*l.*, reversion in 42½ yrs. 6,075
Wimbledon.—20 to 38 (even), Havelock-rd., u.t. 97 yrs., g.r. 57*l.* 10s., e.r. 325*l.* 1,950

By HOLCOMBE, BETTS, & WEST.

Kentish Town.—Dickenson-st., f.g.r. 64*l.* 16s., reversion in 66½ yrs. 1,680
Dalby-st., f.g.r. 35*l.*, reversion in 66½ yrs..... 910
Walthamstow.—Hoe-st., f.g.r. 15*l.*, reversion in 78 yrs. 405
Notting Hill.—232, Lancaster-rd., u.t. 63 yrs., g.r. 8*l.* 460

By WESTON & SONS.

Kennington.—Finchley-rd, &c., i.g.r.'s 123*l.*, u.t. 50 yrs., g.r. 79*l.* 12s. 6d. 750
Brixton.—Lorn-rd., i.g.r. 24*l.*, u.t. 25 yrs., g.r. 8*l.* 200
Pimlico.—Kanelagh-rd., &c., i.g.r.'s 24*l.* 8s., u.t. 24 yrs., g.r. 6d. 330
Cumberland-st., &c., i.g.r.'s 25*l.*, u.t. 27 yrs., g.r. 12s., with reversion 350
Sydenham.—Coombe-rd., f.g.r. 18*l.*, reversion in 63 yrs. 470

By W. N. WILLOUGHBY.

Dulwich.—11 and 12, Acacia-grove, u.t. 48 yrs., g.r. 10*l.* 10s., r. 71*l.* 620

By HEPPER & SONS (at Leeds).

Leeds.—Headingley Hill, Ashfield House, and 2 a. 0 r. 5 p., f. 5,000

By HUMBERT & FLINT (at Watford).

Watford, Herts—114, High-st., f., r. 50*l.*..... 1,000
136, 138, and 140, St Alban's-rd., f., r. 130*l.* .. 2,060
Clarendon-rd., a freehold building site, with farm buildings, &c., thereon 390
Rosslyn-rd., two freehold building sites..... 765

By W. TORRENCE-KNIGHT (at Masons' Hall Tavern).

Commercial-rd. East—No. 414, the Brewers' Hall p.-h., also 1 and 2, Devonport-st., f. 3,170

March 20.—By CHAMBERS & GIET.

Dalston.—22, Broke-rd., u.t. 42½ yrs., g.r. 4*l.* 10s., r. 28*l.* 330

By E. W. RICHARDSON & SON.

Battersea.—175, High-st., u.t. 56 yrs., g.r. 8*l.*, r. 40*l.* 415
Caledonian-rd.—Copenhagen-st., &c., i.g.r.'s 81*l.* 15s., u.t. 43 yrs., g.r. 11. 0s. 3d. 1,240

By WOODS & SNELLING.

Mile End.—6, Edward's-rd., u.t. 45½ yrs., g.r. 4*l.* 10s. 220
Bow.—Parnell-rd., f.g.r. 20*l.*, reversion in 73¾ yrs. 430
Lefevre-rd., f.g.r. 8*l.*, reversion in 73¾ yrs. 195
Stockwell.—Paradise-rd., i.g.r. 24*l.*, u.t. 26 yrs., g.r. 12*l.*, with reversion 270

By DOUGLAS YOUNG & CO.

Stratford.—Chapel-st., &c., f.g.r. 31*l.*, reversion in 77½ yrs. 675
Clapham.—Cottage-grove, f.g.r.'s 137*l.*, reversion in 44½ yrs. (in lots) 3,700
Willington-rd., f.g.r.'s 50*l.*, reversion in 44½ yrs. 1,345
Islington.—239, 241, and 243, Liverpool-rd., f., r. 114*l.* 1,870

By BAXTER, PAYNE, & LEPPER.

Lee.—Eton-grove, f.g.r. 18*l.*, reversion in 25 yrs. 545
Eton-grove, f.g.r.'s 47*l.* 12s., reversion in 25 yrs. 1,800
Bromley, Kent.—8 and 9, Hope Park, u.t. 45 yrs., g.r. 15*l.*, r. 150*l.* 920

March 21.—By J. G. DEAN & CO.

Balham.—Boundaries-rd., Petworth House, u.t. 96 yrs., g.r. 6*l.* 6s., e.r. 36*l.* 360

By WORSFOLD & HAYWARD.

Sydenham.—Border-rd., Arden House, u.t. 59 yrs., g.r. 20*l.*, r. 90*l.* 800
Beckenham, Kent.—3, Hartington-villas, f., e.r. 45*l.* 540

By C. RAWLEY CROSS & CO.

Notting Hill.—11 to 21 (odd), Hesketh-place, u.t. 33 yrs., g.r. 25*l.* 360
6 to 18 (even), Mary-pl., u.t. 33 yrs., g.r. 15*l.* .. 395
2 to 10 (even), Tobin-st., u.t. 45 yrs., g.r. 15*l.*... 325
1 and 3, Tobin-st., u.t. 45 yrs., g.r. 15*l.*..... 390
1 to 7, Tobin-sq., and 20, 22, and 24, Mary-pl., u.t. 45 yrs., g.r. 30*l.* 510
13, Mary-pl., u.t. 34 yrs., g.r. 5*l.*..... 75
Newington Causeway.—35, 37, and 39, Tarn-st., and 1A, 1, and 2, Dorset-st., u.t. 8¾ yrs., g.r. 55*l.* 1,500
1A, 1 to 9 (odd), 21, 27, and 29, Tiverton-st., part f. and part u.t., 9 yrs., g r. 15*l.* 395
Shepherd's Bush.—Rylett-rd., a building site, 2 a. 0 r. 19 p., f. 280

By NEWBON, EDWARDS, & SHEPHARD.

Stamford Hill.—16, St. Ann's-rd., f., r. 36*l.*..... 140
Stoke Newington.—6, Defoe-rd., u.t. 64 yrs., g.r. 5*l.* 10s. 215
Kingsland.—20, Downham-rd., u.t. 18½ yrs., g.r. 4*l.* 565
Kentish Town.—40, Raglan-st., u.t. 23½ yrs., g.r. 5*l.* 125
Holloway.—343, Camden-rd., and 13A, Williamson-st., u.t. 44½ yrs., g.r. 8*l.* 800
Camden Town.—Great College-st., i.g.r. 14*l.*, u.t. 28¼ yrs., g.r. 5*l.* 670
Great College-st., i.g.rents 83*l.*, u.t. 40 yrs., g.r. 32*l.* 10s. 430
196, Great College-st., r. 52*l.*; also i.g. rents 16*l.*, u.t. 40 yrs., g.r. 7*l.* 10s. 430
City-rd.—29, Graham-st., f., e.r. 35*l.* 480
Barnsbury.—29. St. James'-rd., u.t. 60½ yrs., g.r. 5*l.*, r. 40*l.* 550
Islington.—96, Church-rd., u.t. 36¼ yrs., g.r. 5*l.* r. 46*l.* 340
Canonbury.—9, Quadrant-rd., u.t. 44 yrs., g.r. 8*l.* e.r. 65*l.* 470
Stoke Newington.—75, Green Lanes, u.t. 80 yrs., g.r. 15*l.*, r. 45*l.* 350
109, Mildmay rd., u.t. 49 yrs., g.r. 6*l.* 6s., e.r. 42*l.* 415
Hackney.—23, Loddiges-rd., u.t. 46½ yrs., g.r. 5*l.*, r. 36*l.* ..... 73, Clarence-rd., u.t. 41½ yrs., g.r. 6*l.*, e.r. 42*l.*

Barnsbury.—10, Albert-st., u.t. 47 yrs., g.r. 6*l.*, r. 32*l.* £350
Old Ford.—42 and 44, Cardigan-rd., f. 750
Harringay.—111, Harringay-rd., u.t. 79 yrs., g.r. 6*l.* 6s., e.r. 30*l.* 260
Kentish Town.—10, Gospel Oak-grove, also i.g r. 9*l.*, u.t. 62½ yrs., g.r. 8*l.* 350

By STIMSON & SONS.

Clapham.—4, 6, and 8, Forthbridge-rd., u.t. 88 yrs., g.r. 22*l.* 1s., r. 114*l.* 1,250
Brixton.—46, 48, 50, and 52, Mostyn-rd., u.t. 62½ yrs., g.r. 26*l.*, r. 136*l.* 1,400
4, 6, 8, and 10, Horsford-rd., u.t. 74 yrs., g.r. 19*l.*, r. 112*l.* 1,255
Streatham.—5 and 8, Buckleigh-rd., u.t. 78½ yrs., g.r. 21*l.*, r. 100*l.* 870
Peckham.—42, Philip-rd., u.t. 53½ yrs., g.r. 5*l.* .. 350
90, 92, and 94, Dennett's-rd., f., e.r. 117*l.*... ... 1,260
Clapham.—65, Jeffreys-rd., u.t. 66½ yrs., g.r. 7*l.* 10s., r. 45*l.*... 410

By TUCKETT & SON (at Forest Gate).

Forest Gate.—Strone-rd., 55 plots of freehold building land 3,840

By JENKINS & SONS (at New Cross).

New Cross.—1 and 3, Milton Court-rd., u.t. 45 yrs., g.r. 4*l.* 460
Brockley.—15, Holdenby-rd., u.t. 76 yrs., g.r. 5*l.*, e.r. 28*l.* 265
Deptford.—1 and 3, Douglas-st., f. 935
5, 6, 7, and 8, Corston-st., u.t. 44 yrs., g.r. 8*l.* 4s. 800

March 22.—By ELLIS & SON.

Tower Hill.—3, Savage Gardens, area 2,300 ft., f., r. 580*l.*..... 7,500

By HERRING, SON, & DAW.

Norwood.—24, 26, and 28, Mowbray-rd, u.t. 80 yrs., g.r. 48*l.*, r. 200*l.* 1,385
2 and 4, Maberley-rd., u.t. 80 yrs., g.r. 23*l.*, r. 100*l.* 730
26, Maberley-rd., u.t. 80 yrs., g.r. 11*l.* 10s., e r. 50*l.* 350
19 and 27, Sylvan-rd., u.t. 81 yrs., g.r. 36*l.* 1,010
Clapham.—Poynders-rd., Chios House and 2 a., u.t. 35¾ yrs., g.r. 45*l.* 6s..... 2,000

By B. R. BOSTOCK.

Stratford.—83 and 85, Gurney-rd., f., r. 48*l.*.... 850
Forest Gate.—112, 114, and 116, Strone-rd., f.... 800
147, Red Post-lane, f. 395
East Ham.—Folkestone-road, six plots of building land, f. 158

By Messrs. KEMSLEY.

Romford, Essex.—Havering-rd., Runnymede Villa and Windermere Villa, also two plots of land, f. 560

By TOPLIS & HARDING.

Dalston.—15, 17, 19, 21, 25, 27, and 29, Brougham-rd, u.t. 42½ yrs., g.r. 24*l.* 10s. 1,495

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.		
Hard Stocks	1 14 6	per 1,000	alongside, in river.
Rough Stocks and Grizzles	1 11 0	,,	,, ,,
Facing Stocks.....	2 12 0	,,	,, ,,
Shippers	2 8 0	,,	,, ,,
Fletton.....	1 9 0	,,	at railway depot.
Best Red Cuts ..	1 15 6	,,	,, ,,
Best Fareham Red	3 11 0	,,	,, ,,
Best Red pressed Ruabon Facing.	5 5 0	,,	,, ,,
Best Blue Pressed Staffordshire ..	4 7 0	,,	,,
Do., Bullnose	4 12 0	,,	,, ,,
Best Stourbridge Fire Bricks	4 4 6	,,	,, ,,
GLAZED BRICKS.			
Best White and Ivory Glazed Stretchers	13 0 0	,,	,, ,,
Headers	12 0 0	,,	,, ,,
Quoins, Bullnose, and Flats	17 0 0	,,	,, ,,
Double Stretchers	19 0 0	,,	,, ,,
Double Headers..	16 0 0	,,	,, ,,
One Side and two Ends	19 0 0	,,	,, ,,
Two Sides and one End	20 0 0	,,	,, ,,
Splays, Chamfered, Squints	20 0 0	,,	,, ,,
Best Dipped Salt Glazed Stretchers and Headers ..	12 0 0	,,	,, ,,
Quoins, Bullnose, and Flats	14 0 0	,,	,, ,,
Double Stretchers	15 0 0	,,	,, ,,
Double Headers..	14 0 0	,,	,, ,,
One Side and two Ends	15 0 0	,,	,, ,,
Two Sides and one End	15 0 0	,,	,, ,,
plays, Chamfered, Squints	14 0 0	,,	,, ,,
Seconds Quality White and Dipped Salt Glazed ...	2 0 0	,,	less than best

	s. d.		
Thames and Pit Sand	7 3	per yard, delivered.	
Thames Ballast	6 3	,,	,,
Best Portland Cement	38 0	per ton	,,
Best Ground Blue Lias Lime..	25 6	,,	,,

NOTE.—The cement and lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 13s 6d. per yard, delivered
Stourbridge Fire-clay in sacks, 22s. 6d. per ton at rly. dpt.

[See also page 331.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered
*Fire Station	Manchester Corporation	300*l.*, 200*l.* and 100*l.*	June 24
*Shops and Houses, Parkgate	Darlington Corporation	Not stated	No date

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c., Supplied by	Tenders to be delivered
Mortuary Chapel and House, North Bierley	Bradford Corporation	A. Sharp, Architect, Market-street, Bradford	April 2
Bandstand, Peel Park	do.	F. E. P. Edwards, Architect, Chapel-lane, Bradford	do.
Alterations, &c., to Three Warehouses	do.	do.	do.
Cottage, &c., Chapeltown	Wortley R.D.C.	G. E. Beaumont, Engineer, Workhouse, Grenoside, nr. Sheffield	do.
Additions to Mill, Hanley, Staffs	Messrs. C. Leese & Sons	R. Scrivener & Sons, Architects, Hanley	do.
Additions to Warehouse, Ormeau-avenue, Belfast		Young & Mackenzie, Archts., Scottish Provident Bldgs., Belfast	do.
Sewers, &c.	Alvaston (near Derby) U.D.C.	W. H. Radford, Civil Engineer, King-street, Nottingham	do.
Additions to Farm Buildings, Rothiebrisbane, N.B.		J. Duncan & Son, Architects, Turriff, Aberdeen	do.
Restoration of St. Mary's Hall	Coventry Corporation	J. E. Swindlehurst, Civil Engineer, St. Mary's Hall, Coventry	do.
Council Room, &c., Earlsheaton	Soothill Nether U.D.C.	J. H. Ward, Surveyor, Earlsheaton	do.
School Buildings, &c.	Bradwell (Bucks) School Board	J. Chadwick, Architect, Bletchley, Bucks	do.
Additions to Chapel and Classrooms, Bramley, Leeds		Howdill & Howdill, Architects, 7, Oxford-row, Leeds	do.
Additions to Workhouse Infirmary	Wilton (Wilts) Guardians	J. Harding & Son, Architects, 58, High-street, Salisbury	do.
Laying Cast-iron Pipes (2 miles)	Barnsley Corporation	T. & C. Hawksley, C.E., 30, Great George-street, Westminster	do.
Retort House, &c., at Gasworks	Mountain Ash U.D.C.	H. P. Linton, Town Hall, Mountain Ash	do.
Additions to Schools, near Brynmawr	Llanelly (Brecon) School Board	J. Thomas, Brynmawr, Brecon	do.
Reservoir, &c., East and West Ayton	Scarborough R.D.C.	W. O. Woodall, 32, Queen-street, Scarborough	do.
Sewage Disposal Works	St. Albans City Council	Beesley & Co., Engineers, 11, Victoria-street, Westminster	do.
House and Shop, Glyncorrwg, Port Talbot	Rev. J. L. Jones	G. P. Davies, Architect, Station-road, Port Talbot	do.
Re-roofing Police Station	Windsor Town Council	Borough Surveyor, Alma-road, Windsor	do.
Road Materials	Raunds (Northants) U.D.C.	T. Yorke, Surveyor, Raunds	April 3
Stone, &c.	Hollingbourne (Kent) R.D.C.	H. J. Bracher, 33, Earl-street, Maidstone	do.
Additions to No. 12, Promenade, Bridlington	Mr. L. Burrell	S. Dyer, Architect, Bridlington	do.
Sewerage Works	Newport (Salop) U.D.C.	W. Wyatt, Engineer, 99, Radford-road, Leamington	do.
Seven Houses, Albert-road, Halifax		M. Hall, Architect, 29, Northgate, Halifax	do.
Weights and Measures Buildings, Port Talbot	Glamorgan County Council	W. E. R. Allen, County Council Offices, Cardiff	do.
Additions to Police Station, Port Talbot	do.	do.	do.
Additions, &c., to Police Station, Caerphilly	Standing Joint Committee	do.	do.
Sewage Works, &c.	Todmorden Corporation	C. R. Pease, Engineer, Town Hall, Todmorden	do.
Culvert, &c., Eyton	Wrexham R.D.C.	R. Evans, Surveyor, Johnstown, Ruabon	do.
Houses, Albert-street, Fraserburgh, N.B.	Messrs. P. & J. Buchan	W. Reid, Architect, Saltoun-square, Fraserburgh	do.
Brick, &c., Transformer Chambers	Eastbourne Corporation	J. K. Brydges, Civil Engineer, Electricity Works, Eastbourne	do.
Additions, &c., to House, Cairnton, Fintray, N.B.		Stronach & Son, 20, Belmont-street, Aberdeen	do.
Wood Block Flooring Works, Alkin-street	Warrington Corporation	T. Longdin, Engineer, Town Hall, Warrington	do.
Alterations to Town Hall	Coleraine U.D.C.	Town Surveyor, Town Hall, Coleraine	April 4
Eleven Houses, Skelmanthorpe, Yorks	Messrs. E. Field & Sons	J. Berry, Architect, 9, Queen-street, Huddersfield	do.
Additions to Church Manse, Tiptree Heath, Essex		C. & W. H. Pertwee, Bank-chambers, Chelmsford	do.
Additions to Bakery, Dudley Hill	Bradford Prov. Indus. Soc., Ltd.	Rycroft & Firth, Architects, Manchester-road, Bradford	do.
Water Supply Works	Easingwold (Yorks) R.D.C.	Fairbank & Son, Civil Engineers, 13, Lendal, York	do.
Water Mains, &c.	do.	do.	do.
Wesleyan Chapel, Frampton, Lincs		Rev. W. W. Grigg, Norfolk-street, Boston	do.
Church Works, St. Teilo, Cardiff		G. E. Halliday, Architect, Cardiff	do.
Water Supply Works	Penybont (Wales) R.D.C.	J. Hurley & Son, Engineers, 10, Bridgend-road, Aberkenfig	April 5
Two Shops and Houses, King's Cross, Halifax		Jackson & Fox, Architects, 7, Rawson-street, Halifax	do.
Additions to White Hart Hotel, &c., Tonypandy	Mr. J. D. Williams	Griffiths & Jones, Architects, Tonypandy	do.
Drainage Works	Lossiemouth Town Council	J. Wittel, Burgh Surveyor, 81, High-street, Elgin	April 6
*Granite	Loughton U.D.C.	See Advertisement	do.
Sewerage Works, &c.	Burnley Corporation	Borough Surveyor, Town Hall, Burnley	April 8
Street Works	Warwick Town Council	E. M. Richards, Civil Engineer, 20, The Butts, Warwick	do.
Road Materials, &c.	Abergavenny R.D.C.	J. H. Farquhar, Council Offices, Abergavenny	do.
Sewerage Works, Woodford-cum-Membrio	Daventry R.D.C.	J. B. Williams, Engineer, Moot Hall, Daventry	April 9
*Road Materials	Bromley U.D.C.	Council's Offices, Bromley, Kent	do.
Water Supply Works	Barnstaple R.D.C.	Beesley & Co., Engineers, 11, Victoria-street, Westminster	April 10
*Chimney Shaft	Kingston-on-Thames Corporation	Borough Surveyor, Clattern House, Kingston-on-Thames	April 11
*Villa Residences	Madeira Estate Freeholders	Byfield & Son, 3, Stone-buildings, Lincoln's Inn	do.
*Road Making, &c., Works	Willesden District Council	Engineer, Public Offices, Dyne-road, Kilburn, N.W.	do.
*Coal, Coke, &c.	Bromley U.D.C.	Council Offices, Bromley, Kent	do.
*Concrete Groynes	Brighton Borough Council	Surveyor, Town Hall, Brighton	April 12
Fourty Houses, Ebbw Vale	Building Club	J. P. Davies, Eureka-place, Ebbw Vale	do.
Granite, &c.	Sutton Bridge (Lincs) U.D.C.	L. C. Harvey, Holbeach	April 15
Schools, Ynyshir, Wales	Ystradyfodwg School Board	J. Rees, Architect, Pentre	do.
*Schools	Harrow United District School Bd	Houston & Houston, Architects, 5, York-buildings, Adelphi, W.C.	April 16
*Laundry	Wilts County Lunatic Asylum	County Offices, Trowbridge	do.
*Water Vans	Woolwich Borough Council	F. Sumner, Maxey-road, Plumstead	April 18
Sewage Conduit	Blackburn Corporation	W. Stubbs, Civil Engineer, Town Hall, Blackburn	do.
Sixteen Pairs of Cottages, Penydarren Park, Merthyr	Lancaster Building Club	E. A. Johnson, Architect, Merthyr	April 20
*War Office, Whitehall	H.M. Office of Works	Office of Works, Storey's Gate, S.W.	April 23
*Sewers, &c.	Ilfracombe U.D.C.	Town Hall, Ilfracombe	May 14
*Heating and Electric Lighting	Wolverhampton School Board	T. H. Fleeming, Architect, 102, Darlington-st., Wolverhampton	No date
Alterations to Store Premises	Long Eaton Co-operative Soc., Ltd	E. R. Ridgway, Architect, Long Eaton	do.
Roads at Asylum, Quarrington, Lincs	Kesteven County Asylum Visitors	T. H. Holditch, Sleaford	do.
Verandah near Public Hall, St. Anne's-on-Sea		F. E. Spring, St. Anne's-on-Sea	do.
Seven Cottages, &c, Pasture Gate	Stapleford Co-operative Soc., Ltd.	E. R. Ridgway, Architect, Long Eaton	do.
Wood Flooring at Police Station	Warrington Town Council	Cackett & Burns Dick, Architects, 24, Grainger-street, Newcastle	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*Engineering Clerk of Works	Bristol County Council	5*l.* 5s. per week	April 2
*Architectural Assistant	Bournemouth Corporation		April 8
*Engineering Assistant	Sheffield Corporation	160*l.* per annum	April 13
*Chief Highway Surveyor	Nottingham Corporation	250*l.* per annum	April 16

Those marked with an asterisk (*) are advertised in this Number. *Competitions*, p. iv. *Contracts*, pp. iv. vi. viii. x. & xxiv. *Public Appointments*, pp. xxi. & xxiv.

PRICES CURRENT (*Continued*).

STONE.

		s.	d.		
Ancaster in blocks	....	2	0	per ft. cube, deld. rly. depôt.	
Bath	,, ...	1	7	,,	,,
Farleigh Down Bath	..	1	8	,,	,,
Beer	in blocks	1	6½	,,	,,
Grinshill	,, ...	1	10	,,	,,
Brown Portland	in blocks	2	2	,,	,,
Darley Dale	in blocks..	2	1½	,,	,,
Red Corsehill	,,	2	5	,,	,,
Red Mansfield	,,	2	4½	,,	,,
Hard York	in blocks ..	2	10	,,	,,
Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.)		2	8	per ft. super. at rly. depôt	
,, ,,	6 in. Rubbed Ditto..	3	0	,,	,,
,, ,,	3 in. sawn both sides slabs (random sizes)	1	3	,,	,,
,, ,,	3 in. self-faced Ditto	0	9½	,,	,,

SLATES.

in.	in.	£	s.	d.	
20×10 best blue Bangor		11	5	0	per 1000 of 1200 at rly. dep.
,, best seconds	,,	10	15	0	,, ,,
16× 8 best	,,	6	2	6	,, ,,
20×10 best blue Portmadoc	.. ..	10	18	0	,, ,,
16× 8 best blue Portmadoc		6	0	0	,, ,,
20×10 best Eureka unfading green	....	11	2	6	,, ,,
16× 8	,, ,,	6	15	0	,, ,,
20×10 Permanent green		10	0	0	,, ,,
16× 8	,, ,,	5	12	6	,, ,,

TILES.

	s.	d.	
Best plain red roofing tiles	41	6	per 1,000 at rly. depôt.
Hip and valley tiles	3	7	per doz. ,, ,,
Best Broseley tiles	48	6	per 1,000 ,, ,,
Hip and valley tiles....	4	0	per doz. ,, ,,
Best Ruabon Red, brown or brindled Do. (Edwards)	57	6	per 1,000 ,, ,,
Do. ornamental Do.	60	0	,, ,, ,,
Hip tiles.....	4	0	per doz. ,, ,,
Valley tiles.....	3	9	,, ,, ,,
Best Red or Mottled Staffordshire Do. (Peakes)	50	9	per 1,000 ,, ,,
Hip tiles	4	1	per doz. ,, ,,
Valley tiles.....	3	8	,, ,, ,,

WOOD.

BUILDING WOOD.—YELLOW.

	At per standard. £	s.	d.	£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	16	10	0	18	0	0
Deals: best 3 by 9	14	10	0	18	0	0
Battens: best 2½ in. by 7 in. and 8 in. and 3 in. by 7 in. and 8 in.....	12	10	0	15	10	0
Battens: best 2½ by 6 and 3 by 6 ..	0	10	0	13	10	0
Deals: seconds.....	1	0	0	less than 7 in. and 8 in.		
Battens: seconds.....	0	10	0	,, less than best		
	At per load of 50 ft.					
Fir timber: Best middling Danzig or Memel (average specification)	4	10	0	5	0	0
Seconds	4	5	0	4	10	0
Small timber (8 in. to 10 in.)	3	12	6	3	15	0
Swedish balks.....	2	15	0	3	0	0
Pitch pine timber (35 ft. average)..	4	0	0	4	10	0

JOINERS' WOOD.

	At per standard.					
White Sea: First yellow deals, 3 in. by 11 in.....	27	10	0	28	10	0
3 in. by 9 in.	24	0	0	25	0	0
Battens, 2½ in. and 3 in. by 7 in.	20	0	0	21	0	0
Second yellow deals, 3 in. by 11 in.	22	10	0	24	0	0
,, ,, 3 in. by 9 in.	20	0	0	21	0	0
Battens, 2½ in. and 3 in. by 7 in.	16	10	0	18	0	0
Third yellow deals, 3 in. by 11 in. and 9 in.	16	10	0	18	0	0
Battens, 2½ in. and 3 in. by 7 in.	13	10	0	14	10	0
Petersburg: first yellow deals, 3 in. by 11 in.	25	0	0	26	0	0
Do. 3 in. by 9 in.	22	0	0	23	0	0
Battens.....	16	10	0	17	10	0
Second yellow deals, 3 in. by 11 in.....	18	10	0	20	0	0
Do. 3 in. by 9 in.	17	0	0	18	0	0
Battens.....	14	0	0	14	10	0
Third yellow deals, 3 in. by 11 in.....	15	0	0	16	10	0
Do. 3 in. by 9 in.	14	0	0	14	10	0
Battens.....	12	10	0	13	10	0
White Sea and Petersburg:—						
First white deals, 3 in. by 11 in..	15	10	0	16	10	0
,, ,, ,, 3 in. by 9 in. ..	14	0	0	15	0	0
Battens.....	12	10	0	13	10	0
Second white deals 3 in. by 11 in.	14	0	0	15	0	0
,, ,, ,, 3 in. by 9 in.	13	0	0	14	0	0
,, ,, battens	11	0	0	12	0	0
Pitch pine: deals	16	0	0	18	0	0
Under 2 in. thick extra	0	10	0	1	0	0
Yellow Pine—						
First, regular sizes	30	0	0	33	0	0
Broads (12 in. and up)	2	0	0	more.		
Oddments	22	0	0	24	0	0
Seconds, regular sizes	24	10	0	26	10	0
Yellow Pine Oddments	20	0	0	22	0	0
Kauri Pine—						
Planks, per ft. cube	0	3	6	0	4	6
Danzig and Stettin Oak Logs—						
Large, per ft. cube	0	2	6	0	2	8
Small ,, ,, ...	0	2	4	0	2	7
Wainscot Oak Logs, per ft. cube ..	0	5	0	0	5	6
Dry Wainscot Oak, per ft. sup. as inch	0	0	8	0	0	7
in. do. do.	0	0	7	-	-	-
Dry Mahogany—						
Honduras, Tabasco, per ft. sup. as inch	0	0	9	0	0	11
Selected, Figury, per ft. sup. as inch	0	1	6	0	2	0

PRICES CURRENT (*Continued*).

WOOD.

	At per standard. £	s.	d.	£	s.	d.
Dry Walnut, American, per ft. sup. as inch.....	0	0	10	0	1	0
Teak, per load	16	0	0	20	0	0
American Whitewood Planks—						
Per ft. cube.....	0	2	3	0	3	0

JOISTS, GIRDERS, &c.

	In London, or delivered to Railway Vans, per ton. £	s.	d.	£	s.	d.
Rolled Steel Joists, ordinary sections	7	15	0	8	15	0
Compound Girders ,, ,,	9	10	0	10	15	0
Angles, Tees and Channels, ordinary sections	9	7	6	11	7	6
Flitch Plates	9	15	0	10	10	0
Cast Iron Columns and Stanchions, including ordinary patterns	8	5	0	10	0	0

METALS.

	Per ton, in London. £	s.	d.	£	s.	d.
IRON.—						
Common Bars.....	9	10	0	-	-	-
Staffordshire Crown Bars, good merchant quality	9	15	0	10	0	0
Staffordshire "Marked Bars" ..	11	10	0	-	-	-
Mild Steel Bars.....	9	10	0	10	10	0
Hoop Iron, basis price.....	10	5	0	10	15	0
,, ,, galvanised	16	0	0	-	-	-
(* And upwards, according to size and gauge.)						
Sheet Iron, Black.—						
Ordinary sizes to 20 g.	10	15	0	-	-	-
,, ,, to 24 g.	11	15	0	-	-	-
,, ,, to 26 g.	13	5	0	-	-	-
Sheet Iron, Galvanised, flat, ordinary quality.—						
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.....	13	0	0	-	-	-
,, ,, 22 g. and 24 g.	13	15	0	-	-	-
,, ,, 26 g.....	15	10	0	-	-	-
Sheet Iron, galvanised, flat, best quality.—						
Ordinary sizes to 20 g.	17	0	0	-	-	-
,, ,, 22 g. and 24 g.	17	10	0	-	-	-
,, ,, 26 g.	19	0	0	-	-	-
Galvanised Corrugated Sheets.—						
Ordinary sizes, 6 ft. to 8 ft. 20 g.	13	0	0	-	-	-
,, ,, 22 g. and 24 g.	13	10	0	-	-	-
,, ,, 26 g.	14	0	0	1	10	0
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker ..	13	0	0	-	-	-
,, ,, 22 g. and 24 g.	14	0	0	-	-	-
,, ,, 26 g.	15	0	0	-	-	-
Cut nails, 3 in. to 6 in.....	11	10	0	-	-	-
(Under 3 in. usual trade extras.)						
LEAD—Sheet, English, 3 lbs. & up.	16	0	0	-	-	-
Pipe in coils	16	10	0	-	-	-
Soil Pipe..	19	0	0	-	-	-
ZINC—Sheet—						
Vieille Montagne ..... ton	25	0	0	-	-	-
Silesian.....	24	10	0	-	-	-
COPPER—						
Strong Sheet..... per lb.	0	1	0½	-	-	-
Thin ..... ,,	0	1	2	-	-	-
Copper nails ..... ,,	0	1	2	-	-	-
BRASS—						
Strong Sheet..... ,,	0	0	11	-	-	-
Thin ,, ... ,,	0	1	1	-	-	-
TIN—English Ingots ..... ,,	0	1	4½	-	-	-
SOLDER—Plumbers' ..... ,,	0	0	7½	-	-	-
Tinmen's ..... ,,	0	0	8½	-	-	-
Blowpipe ..... ,,	0	0	9½	-	-	-

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2½d.	per ft. delivered.
,, fourths	2¾d.	,, ,,
21 oz. thirds	3¼d.	,, ,,
,, ,, fourths.....	3½d.	,, ,,
26 oz. thirds	4¼d.	,, ,,
,, ,, fourths	4½d.	,, ,,
32 oz. thirds	5¼d.	,, ,,
,, ,, fourths.....	5½d.	,, ,,
Fluted sheet, 15 oz.	3¼d.	,, ,,
,, ,, 21 ,, ...	4¼d.	,, ,,
½ Hartley's Rolled Plate.....	3d.	,, ,,
⅓ ,, ,, ,, ...	3¼d.	,, ,,
¼ ,, ,, ,, ...	4d.	,, ,,

OILS, &c.

		£	s.	d
Raw Linseed Oil in pipes.....	per gallon	0	2	2
,, ,, ,, in barrels	,,	0	2	3
,, ,, ,, in drums	,,	0	2	3
Boiled ,, ,, in pipes.....	,,	0	2	5
,, ,, ,, in barrels	,,	0	2	4
,, ,, ,, in drums	,,	0	2	5
Turpentine, in barrels	,,	0	2	7
,, in drums.....	,,	0	2	6
Genuine Ground English White Lead ...per ton		25	10	0
Red Lead, Dry.....	,,	25	0	0
Best Linseed Oil Putty.....	per cwt.	0	9	0
Stockholm Tar	per barrel	1	10	0

VARNISHES, &c.

	per gallon £	s.	d
Fine Elastic Copal Varnish for outside work ..	0	16	6
Best Elastic Copal Varnish for outside work ..	1	0	0
Best Elastic Carriage Varnish for outside work	0	16	6
Best Hard Oak Varnish for inside work	0	10	6
Best Extra Hard Church Oak Varnish for inside work ..	0	10	6
Fine Hard Copal Varnish for inside work	0	16	0
Best Hard Copal Varnish for inside work	0	16	0
Best Hard Carriage Varnish for inside work....	1	0	0
Extra Pale Paper Varnish	0	16	0
Best Japan Gold Size	0	12	0
Best Black Japan	0	10	0
Oak and Mahogany Stain	0	16	0
Brunswick Black	0	9	0
Berlin Black	0	9	0
Knotting	0	15	0
Best French and Brush Polish	0	10	0

TO CORRESPONDENTS.

NOTE.—The responsibility of signed articles, letters, and papers read at meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TENDERS.

** Next week communications for insertion under this heading must reach us *not later than 10 a.m.* on Wednesday, as, owing to the Easter holidays, we go to press a day earlier than usual.

* Denotes *accepted*. † Denotes *provisionally accepted*.

CARDIFF.—For the erection of new warehouse, Paradise-place, for Mr. Joseph Spiridion. Messrs. Veall & Sant, architects, Cardiff:—

J. E. Evans ..	£2,175 0 0	James Allan ..	£1,878 19 6
Beames & Nephew....	2,119 3 3	C. C. Dunn ..	1,875 0 0
H. Gibbon ..	2,100 0 0	Evans & Bros.	1,853 0 0
G. Hallett....	2,040 0 0	W. T. Morgan	1,850 0 0
G. L. Strachan	1,999 0 0	J. Thomas ..	1,845 0 0
A. W. Cadwallader	1,979 0 0	Price Bros. ..	1,798 0 0
Thomas & Co.	1,977 0 0	Handford & Elsworthy..	1,794 0 0
Shepton & Son	1,965 0 0	Couzens & Co.	1,781 15 7
Turner & Son.	1,918 0 0	Knox & Wells	1,760 0 0
J. H. Venning	1,894 0 0	Melhuish Bros.	1,715 0 0
	[All of Cardiff.]	T. Maggs	1,630 0 0

FRINTON-ON-SEA (Essex).—For making-up and sewering portions of Second-avenue, Third-avenue, Ashlyns-road, and Holland-road, Frinton-on-Sea, for Mr. R. Powell Cooper. Messrs. Homer & Co., surveyors, Estate Office, Frinton:—

Pedrette & Co.	£10,671 13 10	F. W. Anderson	£6,915 0 0
Dupont & Co.	7,514 0 0	H. J. Linzell..	6,638 9 0
J. E. Trueman	7,415 0 0	Mackenzie & Sons*	6,106 12 8
E. West	7,370 0 0	Burgoyne & Sons*	5,971 14 7
Moran & Sons	6,987 17 3		
R. Moore ..	6,962 11 7		

[The contracts were divided between Mackenzie & Sons and Burgoyne & Sons.]

HASTINGS.—For the supply of 3,000 tons Guernsey granite for the Corporation. Mr. P. H. Palmer, C.E., Town Hall, Hastings:—

L. Sommerfeld, London* ..... 13s. 3d. per ton.

LONDON.—For the erection of a house, Aldrington-road, Streatham. Mr. William H. Burt, architect, 10, Bush-lane, E.C.:—

Smith & Sons....	£3,837 0	Patman & Fotheringham	£2,754 0
Courtney & Fairbairn	2,939 0	Lorden & Sons ..	2,719 15
G. P. & H. Barnes	2,756 0	Bulled & Co.* ..	2,689 0

LONDON. — For printing works, Tottenham, for Messrs. J. M. Kronheim & Co. Mr. Ernest H. Abbott, architect, 6, Warwick-court, Gray's Inn, W.C. Quantities by Mr. Alfred Johnson, 34, Imperial-buildings, Ludgate-circus, E.C.:—

Griffiths & Co., Ltd.	£5,215	Wells & Son.....	£4,775

LONDON.—For stable buildings, Richardson-street, Whitechapel, E., for Mr. E. Rochester. Mr. Ernest H. Abbott, architect, 6, Warwick-court, Gray's Inn, W.C. Quantities by Mr. Alfred Johnson, 34, Imperial-buildings, Ludgate-circus, E.C.:—

A. Webb	£6,379	A. E. Symes	£5,640
W. Harper	6,028	R. & E. Evans	5,550
W. Walker	5,668	G. Maddison	5,499

LONDON.—For the erection of Sheridan, Beaumont, and Fletcher buildings, Duke's-court site, Drury-lane, for the accommodation of persons of the working classes to be displaced by the Clare Market, Strand, scheme, for the London County Council:—

T. L. Green	£27,631 0 0	Holloway Bros.	£25,470 0 0
Leslie & Co.	27,115 0 0	Marsland & Sons	24,711 18 5
Lawrance & Sons	27,012 0 0	Martin Wells & Co.*....	23,600 0 0
Todd & Co.	25,930 0 0		
B. E. Nightingale	25,753 0 0		

LONDON.—For proposed rebuilding of Nos. 39, 40, and 43, Trinity-square, for the executors of the late C. J. Knowles, from drawings prepared by Mr. C. Watkins, of Glebe House, Sherborne-lane, E.C., exclusive of fixtures and fittings. Quantities by Mr. Deacon:—

Lascelles & Co.....	£27,300	Hy. Lovatt.....	£26,250
Patman & Fotheringham.....	27,280	Colls & Son	25,860
Ashby & Horner ..	26,987	Foster & Dicksee ..	25,716
F. & H. F. Higgs..	26,938	W. Downs.....	25,434
		Greenwood.....	25,374

LONDON.—For the extension of the middle-level sewer to Scrubbs-lane, Hammersmith, and for the construction of a sewer along Scrubbs-lane from the county boundary to Waldo-road, as well as a length of sewer under the existing ditch forming the overflow from the Counter's-creek sewer, for the London County Council:—

J. H. Neave	£19,324 10 3	Killingback & Co.	£13,457 5 9
J. Dickson ..	17,182 18 5	Clift Ford* ..	12,911 5 8
S. Saunders..	16,505 18 9		

[See also next page.

LOWESTOFT.—For the erection of the boys' home in connexion with the shipping agency at Lowestoft, for the Industrial and Reformatory Schools Committee of the London County Council :—

Martin Wells & Co.	£4,895	G. E. Hawes	£4,391 0 0
J. Cracknell	4,652	C. E. Earl	3,994 0 0
C. R. Cole	4,640	J. Ashby, Mill-rd., Lowestoft*	3,958 10 8
A. & B. Hanson	4,634		

PETERBOROUGH.—For the erection of shops, &c., also subway, at Cowgate and King's-street, for Mr. C. F. Thomson. Mr. J. G. Stallebrass, architect, North-street, Peterborough :—

	Shops.	Subway.
Thurley Bros.	£4,380 0 0	£225 0 0
J. Woolston	4,340 0 0	291 0 0
R. Shanks	4,150 0 0	290 0 0
C. F. Colls	3,998 0 0	221 0 0
Bridgefoot & Son	3,922 13 1	219 0 0
J. Guttridge	3,779 0 0	270 0 0
Hipwell & Co.	3,600 0 0	291 0 0
J. Lucas	3,598 0 0	289 0 0
J. Cracknell	3,564 0 0	238 0 0
R. J. Nichols	3,558 14 0	258 16 6
F. H. Nichols	3,527 13 0	215 3 6
D. Gray	3,431 9 0	205 0 0
H. Watson, Peterborough*	2,997 0 0	215 0 0

Correction.—Messrs. Gavin Bros., Wilson-street, Finsbury-square, call our attention to an error in the spelling of their name in our last issue in the tender for Brecknock-road job. The name was printed Lavin Bros. The mistake was due to illegible "copy."

LONDON SCHOOL BOARD TENDERS.

At the last meeting of the London School Board, the Works Committee submitted the following lists of tenders. Mr. T. J. Bailey is the Board's Architect :—

* *Recommended for acceptance.*

CANAL-ROAD (Improvements).—Providing and fixing complete low-pressure hot-water apparatus :—

Wippell Bros. & Row	£830 0	Oldroyd & Co., Ltd.	£642 0
Cannon & Sons	789 0	Stevens & Sons	600 0
Dargue, Griffiths, & Co., Ltd.	679 10	Wenham & Waters, Ltd.	599 0
J. Esson	675 0	Bates & Sons	594 0
		Price Lea & Co.*	522 0

DANIEL-STREET.—Special school of four rooms, twenty each, total 80 ; water-closets for boys and girls, and a coal store ; altering position of entrance to manual centre :—

Chessum & Sons	£3,957 13 2	C. Cox	£3,556 0 0
Treasure & Son	3,738 0 0	Williams & Son	3,556 0 0
Clarke & Bracey	3,711 0 0	Lawrance & Sons	3,537 0 0
Leslie & Co., Ltd.	3,626 6 1	Patman & Fotheringham, Ltd.	3,387 0 0
Wall & Co.	3,621 0 0	Willmott & Sons* (Hitchin)	3,352 0 0
Grover & Son	3,595 0 0		
McCormick & Sons	3,585 0 0		

HEAD OFFICES.—Building a new story over anteroom, &c., in order to provide a new drawing office for architect's department :—

E. Triggs	£2,960	Lawrance & Sons	£2,473
Lathey Bros.	2,949	Garrett & Son	2,414
Holloway Bros.	2,720	T. L. Green	2,187
Wall & Co.	2,680	Stevens Bros.	2,060
F. & H. F. Higgs	2,644	Bulled & Co.*	1,945
F. G. Minter	2,638		

EDINBURGH-ROAD SCHOOL (Improvements).—Providing new hall, about 44 ft. by 28 ft., for each department ; new staircase for girls ; infant teachers' room ; extending and re-dividing two existing classrooms into three rooms of 50, 48, and 40 in all departments, reseating one room on each floor ; removing girls' and infants' and boys' covered playgrounds and providing new playground for boys. Revised accommodation :—Boys, 374 ; girls, 374 ; infants, 436 ; total, 1,184. Net loss of 18 places :—

King & Son	£9,517 0 0	O. Craske	£8,843 0 0
Simpson & Son	9,280 0 0	Leslie & Co., Ltd.	8,814 7 2
J. & M. Patrick	9,051 0 0	Patman & Fotheringham, Ltd.	8,473 0 0
Treasure & Son	8,973 0 0	Garrett & Son*	7,984 0 0
Martin, Wells, & Co.	8,904 0 0		
Lorden & Son	8,852 0 0		

HOLBEACH-ROAD.—Providing and fixing complete low-pressure hot-water apparatus to three halls, fifteen class-rooms (ground, first and second floors), drawing classroom, cloakrooms, corridors, and lavatories :—

Harlow & Son	£777 0	G & E Bradley	£555 0
J. Esson	725 0	J. C. Christie	552 0
Dargue, Griffiths, & Co., Ltd.	708 0	Price Lea & Co.	530 0
Vaughan & Brown, Ltd.	708 0	Defries & Sons, Ltd.	498 10
Cannon & Sons	698 0	Brightside Foundry and Engineering Co., Ltd.*	495 0
Knight & Sons	598 0		
Wenham & Waters, Ltd.	566 0		

HOLLYDALE-ROAD — (Boys). — Removing old troughs, extending the offices and building new front wall, rebuilding the back wall, refitting offices with separate pans, and providing new drains with connexion to the existing inspection chamber :—

Baylis & Francis	£498	H. Line	£303
W. V. Goad	335	J. & C. Bowyer	293
Johnson & Co.	364	G. Kemp*	258
H. Groves	345		

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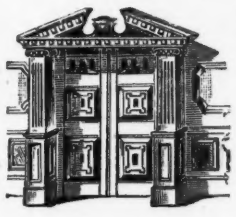

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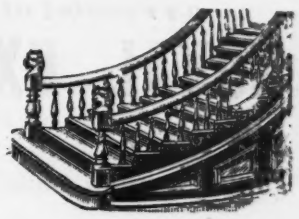

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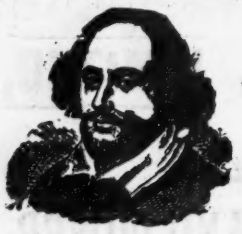

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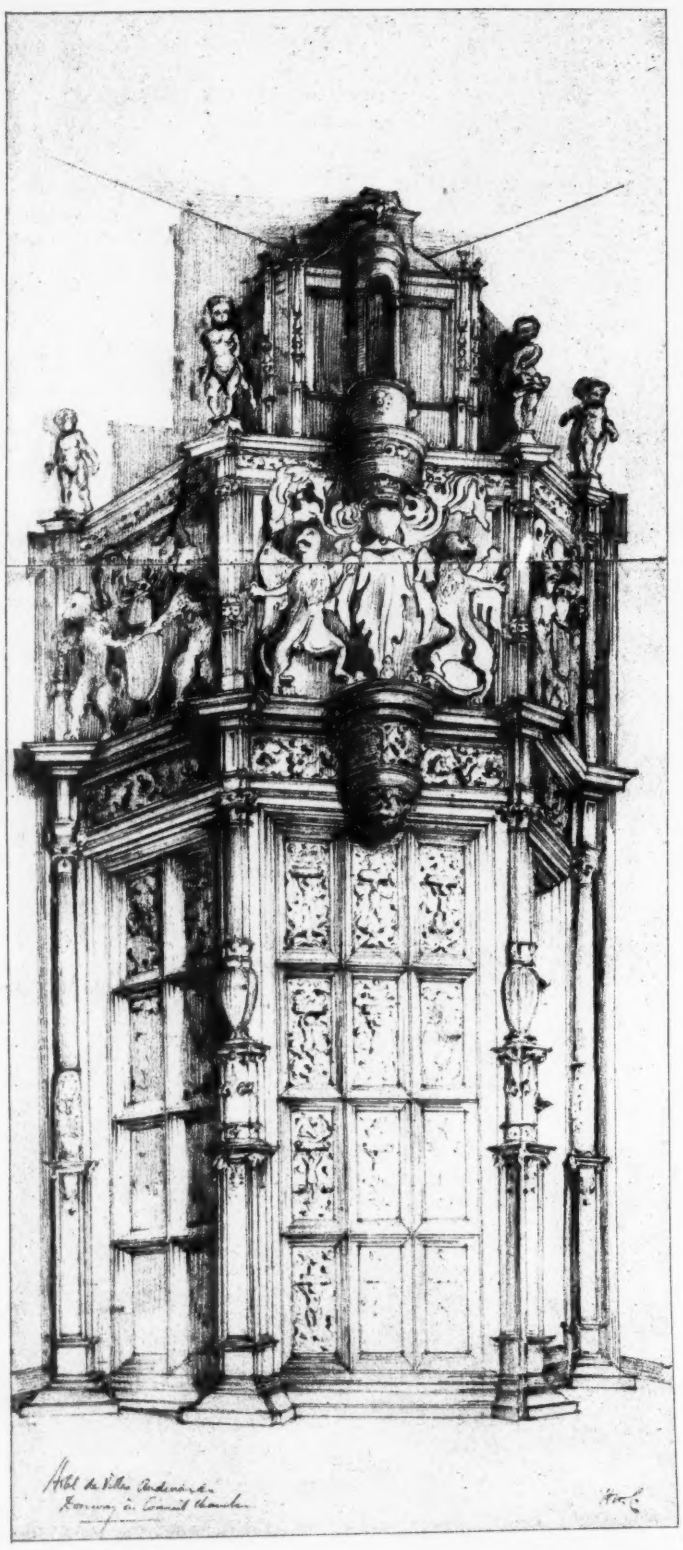
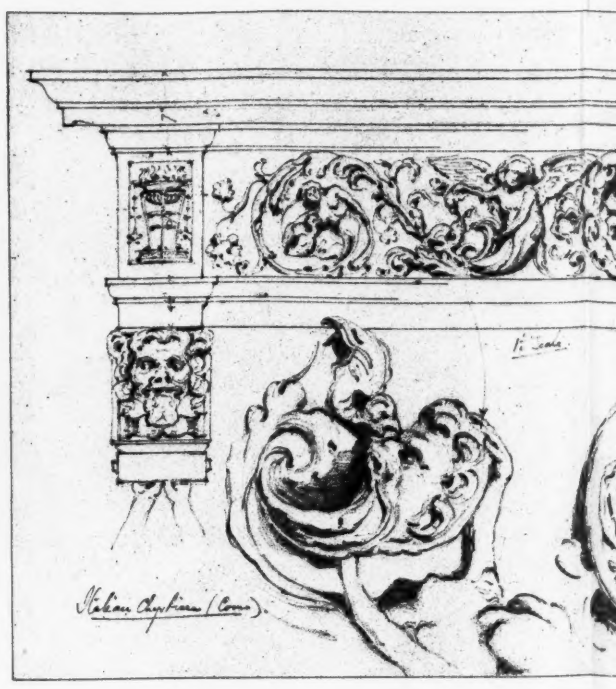
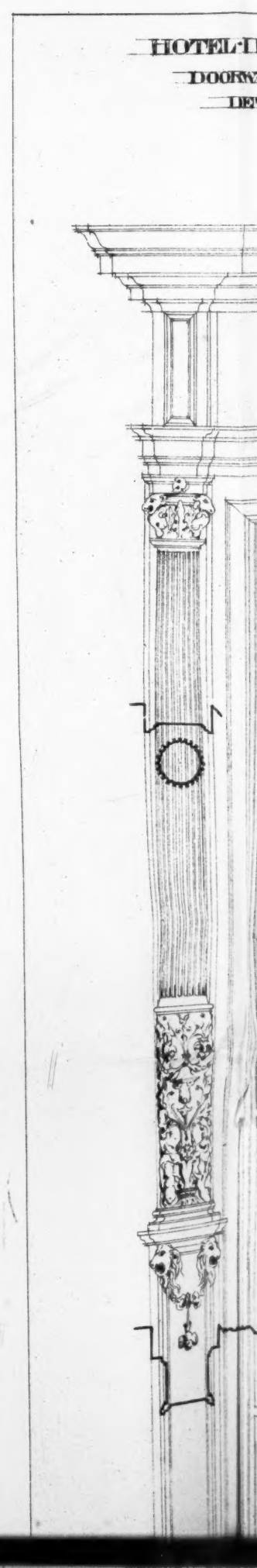
BUILDERS' CLERKS' BENEVOLENT INSTITUTION.—The Committee beg to announce that the TWENTY-THIRD ANNUAL DINNER will be held in the KING'S HALL, HOLBORN RESTAURANT, on TUESDAY, 16th APRIL, 1901, at HALF-PAST SIX p.m. G. APPLETON, Esq (Messrs. Turtle & Appleton), President, in the chair. Gentlemen in, or connected with, the building trades are cordially invited to attend. Tickets 6s. each, may be obtained of any Member of the Committee, or of JOHN AUSTIN, Secretary. Offices: 21, New Bridge-street, Blackfriars, E.C. Dated this 1st April, 1901.

LAND SURVEYING and LEVELLING.—Eight Lectures (Wednesday evenings) and Eight Field Lessons (Saturday or Monday afternoons at students' option). Commence April 24th. Fee, 3*l.* 3*s.*—MIDDLETON & CARDEN, 19, Craven-street, Strand, W.C.



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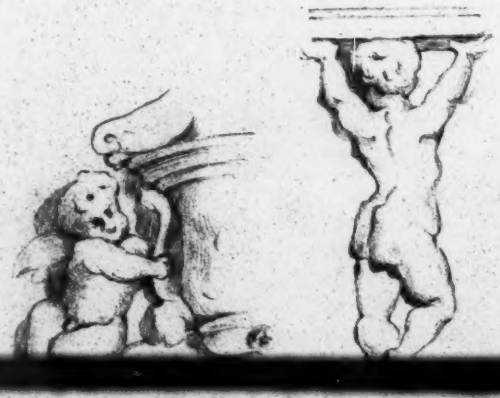

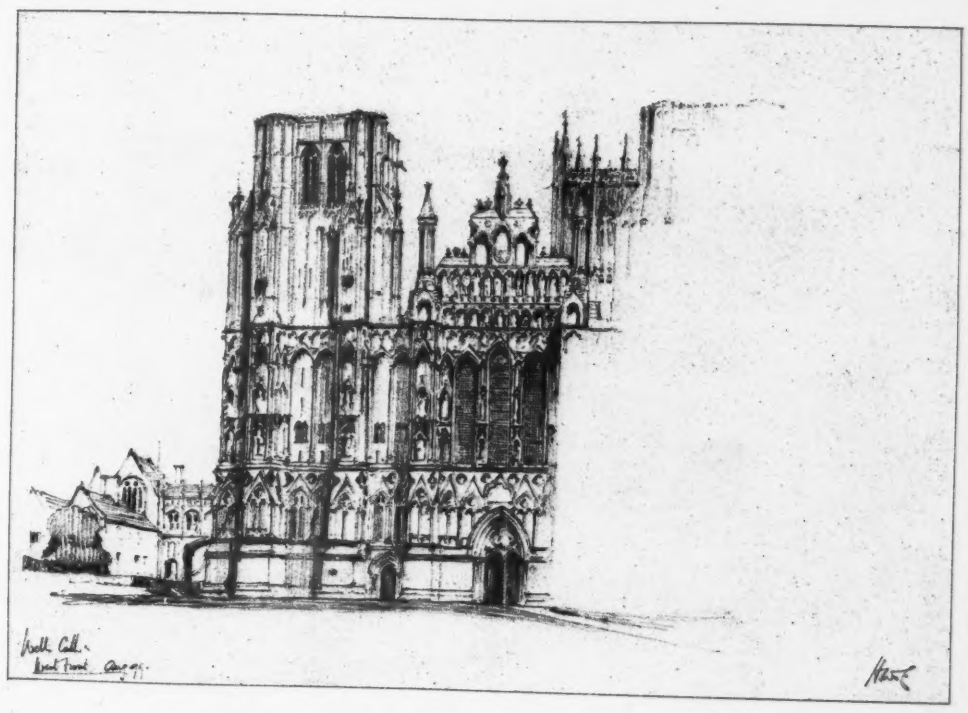

HOTEL-DE-VILLE AUDENARDE:

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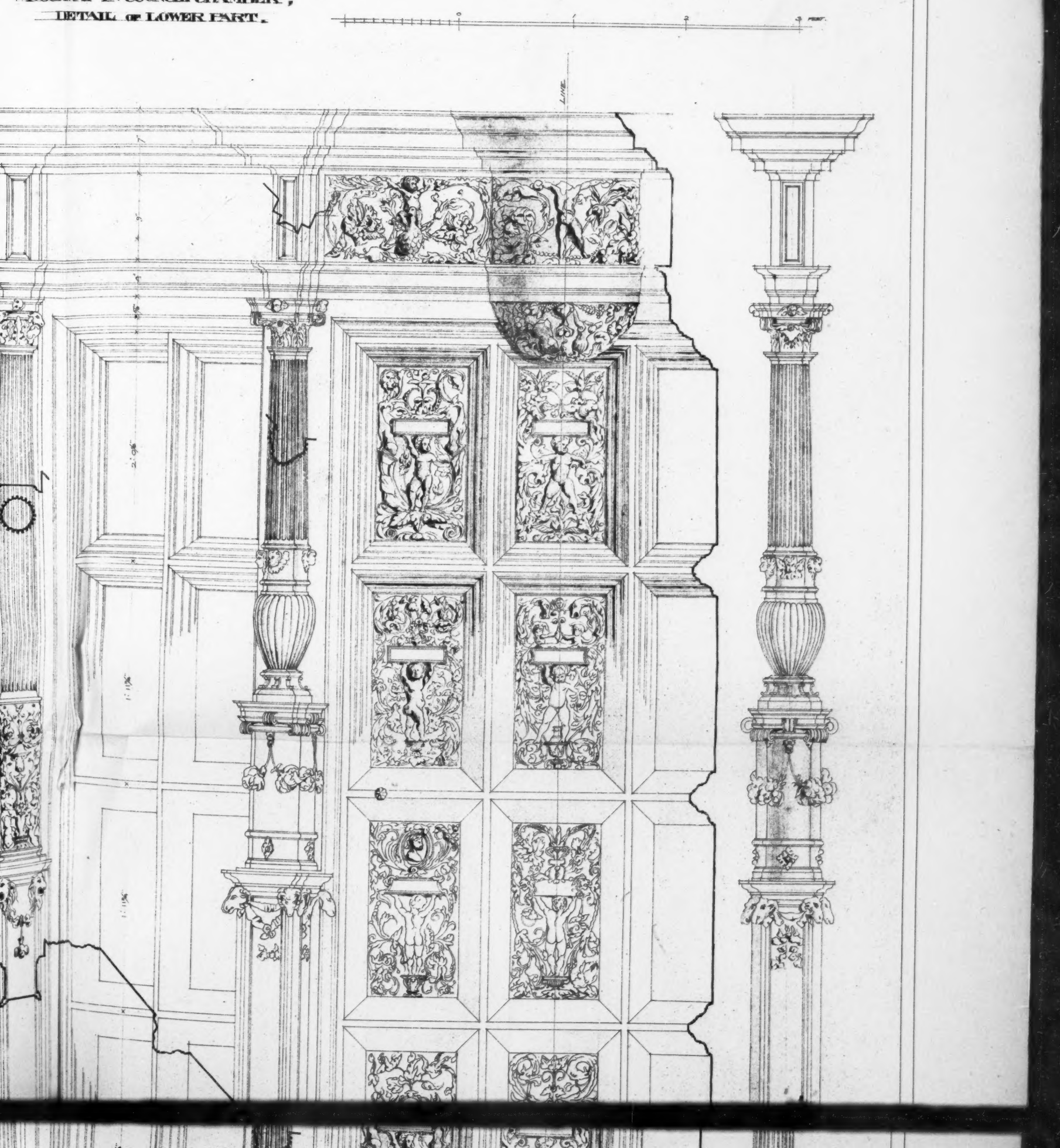
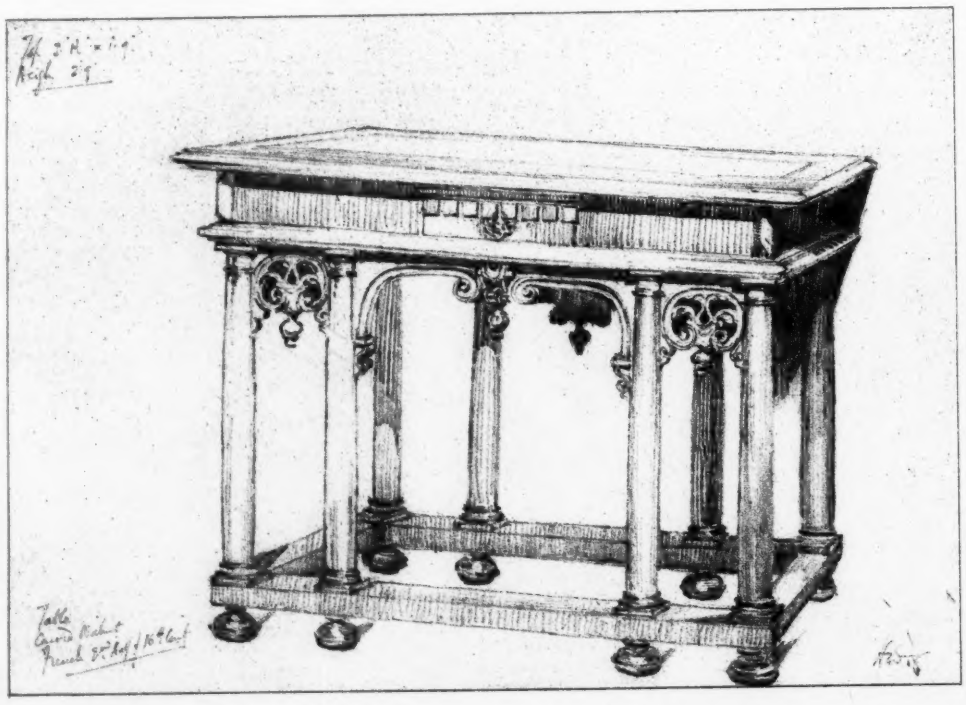
DETAIL OF LOWER PART.





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ELEVATION OF ANGLE.

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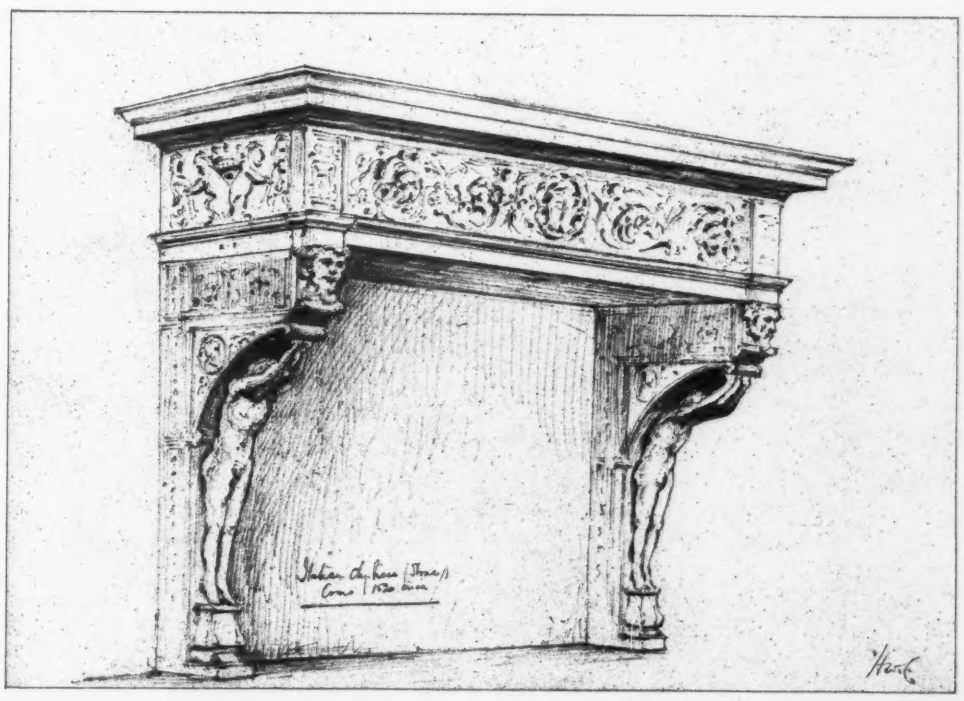
Henry Jos. Cotman.



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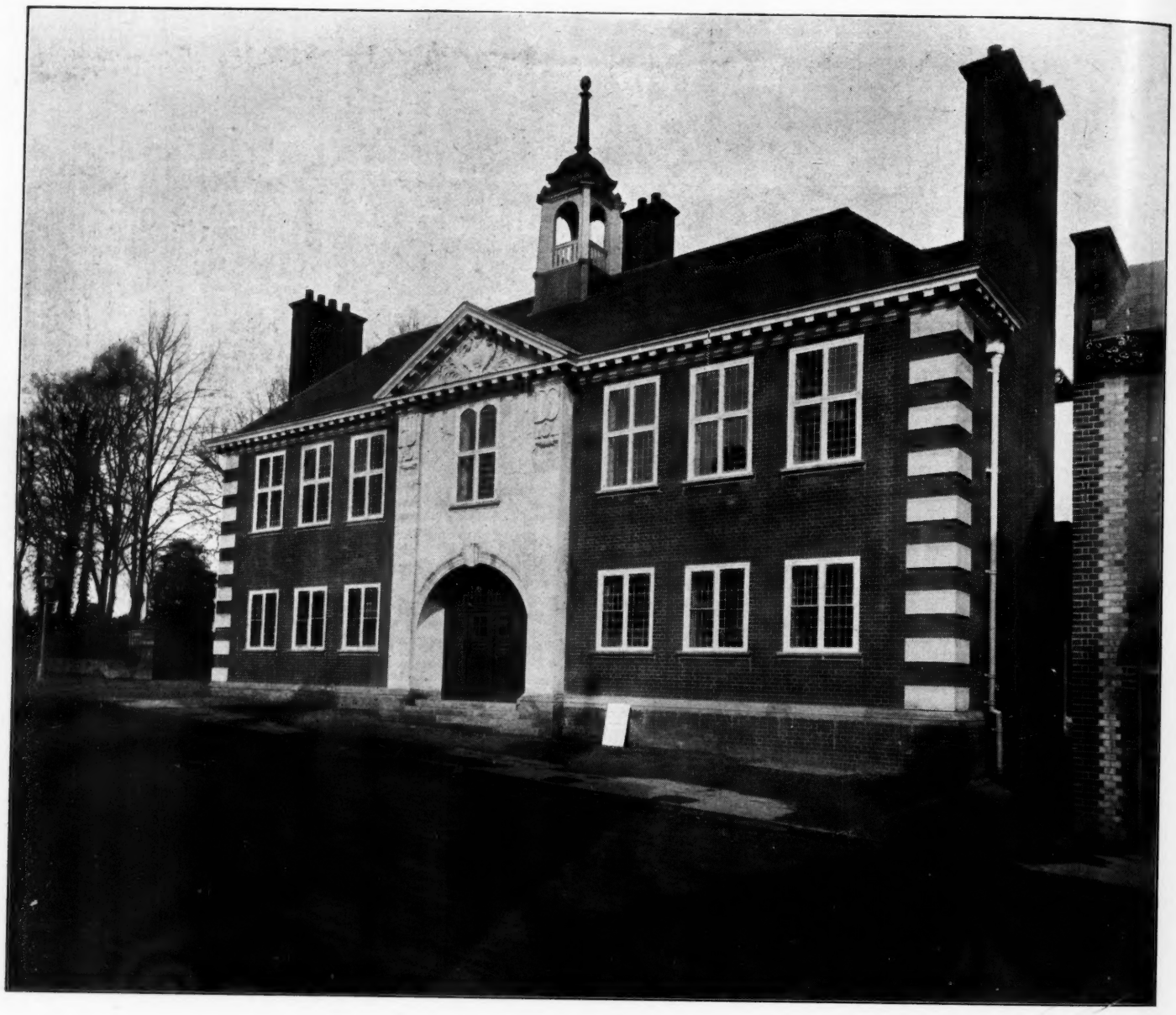

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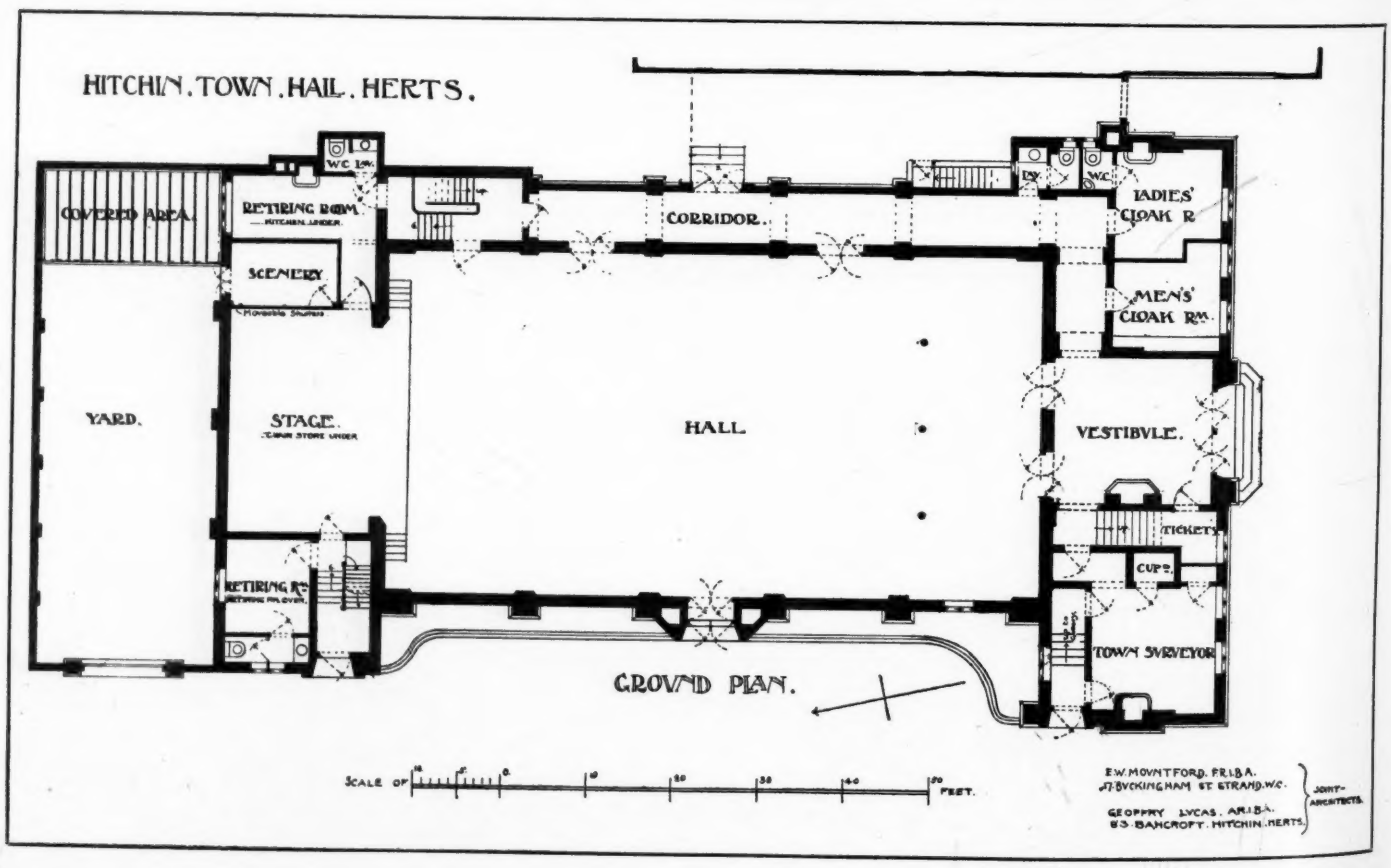

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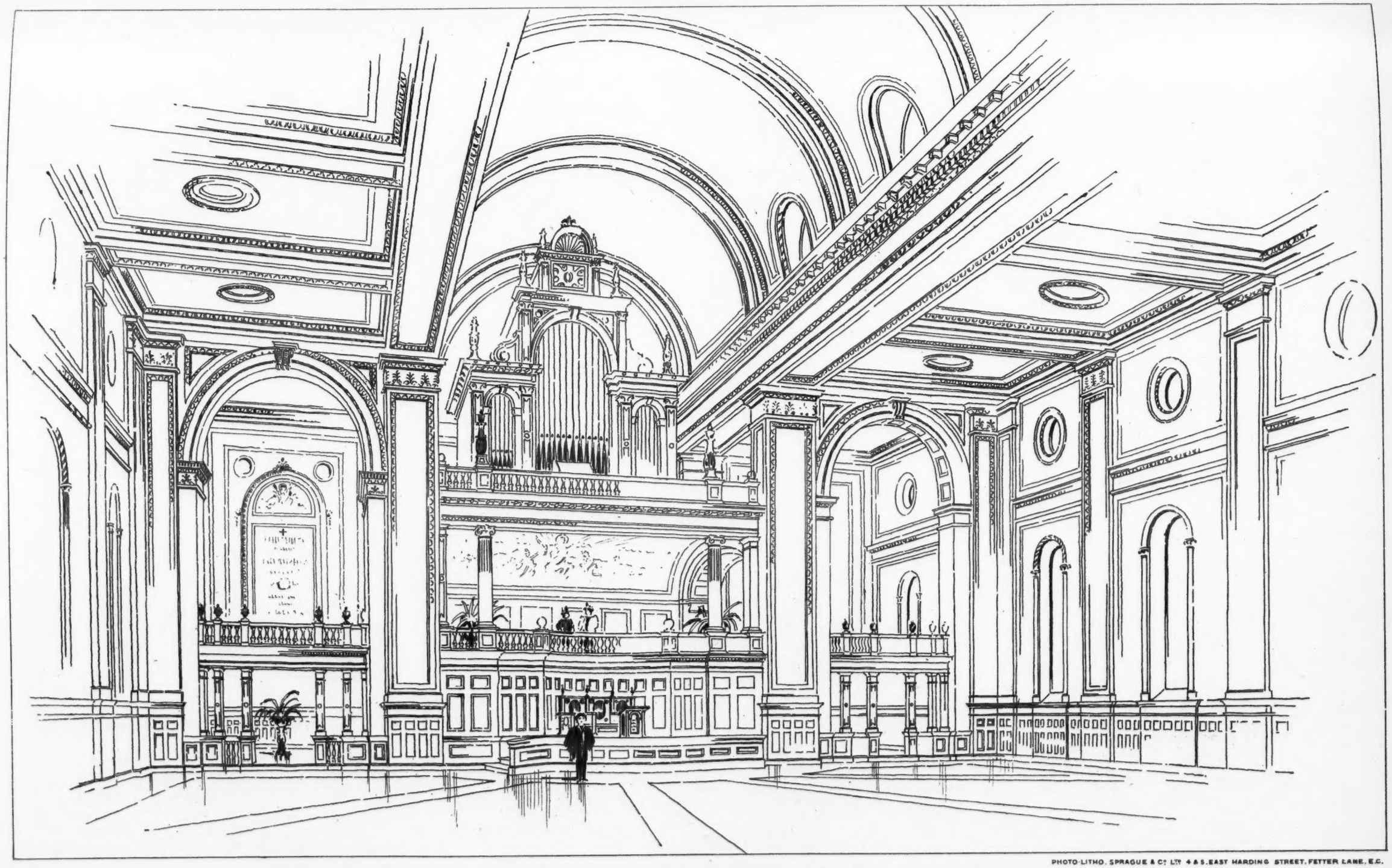

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